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# A-LEVEL PSYCHOLOGY A

PSYA3: Topics in Psychology  
Mark scheme

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2180  
June 2014

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Version: 1.0 Final

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Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts: alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Assessment Writer.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this Mark Scheme are available from [aqa.org.uk](http://aqa.org.uk)

## Biological Rhythms and Sleep

### Question 01

**Outline lifespan changes in sleep.**

**(4 marks)**

**AO1 = 4 marks**

Outline of lifespan changes in sleep

Lifespan changes in sleep patterns include the high proportion of REM at birth that gradually reduces to adult levels, the gradual decline in total sleep time and a highly significant fall in deep NREM sleep over the lifespan. Examiners should be sensitive to the time constraints of this question part, and also to depth-breadth trade-offs; for instance, candidates focusing on the increased amount of REM in the newborn and changes in REM over the following months can achieve maximum marks if material is presented in sufficient depth. Examiners should also be careful not to over-credit anecdotal accounts of sleep changes in, for instance, adolescence.

#### **AO1 4 marks knowledge and understanding**

<p><b>4 marks Sound</b>          Knowledge and understanding are accurate and well detailed.          Organisation and structure of the answer are coherent</p>
<p><b>3 marks Reasonable</b>          Knowledge and understanding are generally accurate and reasonably detailed.          Organisation and structure of the answer are reasonably coherent</p>
<p><b>2 marks Basic</b>          Knowledge and understanding are basic/relatively superficial          Organisation and structure of the answer are basic</p>
<p><b>1 mark Rudimentary</b>          Knowledge and understanding are rudimentary and may be very brief, muddled and/or inaccurate          Lacks organisation and structure</p>
<p><b>0 marks</b>          no creditworthy material</p>

### Question 02

**Outline and evaluate one or more restoration explanations for the function of sleep.**

**(4 marks + 16 marks)**

**AO1 = 4 marks** Outline of one or more restoration explanations for the functions of sleep

The models of both Oswald and Horne can be considered restoration theories of sleep, and candidates are likely to cover one or both of these. Oswald suggested that NREM sleep (SWS) was vital for restoration of the body and REM sleep for restoration of the brain. Horne concluded that sleep did not involve body restoration but was essential for brain restoration, with major roles for REM and deep NREM. Although the majority of candidates are likely to focus on Oswald and/or Horne, examiners should be alert to alternative restoration theories and be prepared to check novel material for relevance.

Although only 4 marks are available, answers must be well detailed for marks in the top band. Brain restoration can involve synapses and neurotransmitters. Body restoration may involve

reference to growth hormone and protein synthesis. There may be separate functions for REM and NREM sleep in relation to restoration. More general points might include the restoration of physiological systems involved in waking activities. Again examiners should be sensitive to the time constraints of this question part, and also to depth-breadth trade-offs.

Candidates may confuse Oswald and Horne, but examiners should focus on the outline of the explanations and award marks on the basis of accuracy and detail of the explanations.

#### **AO1 4 marks knowledge and understanding**

<b>4 marks Sound</b> Knowledge and understanding are accurate and well detailed. Organisation and structure of the answer are coherent
<b>3 marks Reasonable</b> Knowledge and understanding are generally accurate and reasonably detailed. Organisation and structure of the answer are reasonably coherent
<b>2 marks Basic</b> Knowledge and understanding are basic/relatively superficial Organisation and structure of the answer are basic
<b>1 mark Rudimentary</b> Knowledge and understanding are rudimentary and may be very brief, muddled and/or inaccurate Lacks organisation and structure
<b>0 marks</b> no creditworthy material

#### **AO2/3 = 16 marks** Evaluation of one or more restoration explanations for the functions of sleep

The main source of AO2/3 marks is likely to be the use of research evidence, for instance, Oswald's research. There are also many studies of sleep deprivation in both non-human animals and humans, including both case studies and controlled laboratory studies. For AO2/3 credit, findings should be explicitly linked to restoration theories and the implications made explicit. This is likely to be a particular issue with the popular uncontrolled sleep deprivation cases of Peter Tripp and Randy Gardner. These should not be immediately marked as irrelevant. Some centres now focus on the cognitive effects of sleep deprivation in these cases and the fact that sleep recovered is mainly REM and deep NREM, supporting Horne's ideas. The link to theory/explanation must be explicit.

Methodological evaluation of research studies, such as the uncontrolled nature of case studies, may earn AO2/3 marks as long as the implications for the explanation are clear i.e. by reference to the reduced reliability/validity of findings affecting the support for the explanation.

Comparison with alternative explanations would be another route to AO2/3 marks, in particular the evolutionary/ecological approach. However these must be used effectively, rather than simply described, to earn marks.

Issues, debates and approaches in this area include reductionism. The restoration approach focuses on physiological processes in brain and body, a low level and therefore reductionist explanation. It does not take into account higher level ecological factors such as predator-prey status and sleeping niche, which have been shown to influence sleeping patterns in non-human animals. Candidates may also refer e.g. to determinism, ethical issues, and the use of animals in research. Examiners should also be alert to IDA outside the 'routine' list, for instance, practical

applications of research findings. Issues debates and approaches must be used effectively and demonstrate understanding in order to earn marks.

AO2/3 material should first be placed in the appropriate band according to the descriptors.

However, not all the criteria need be satisfied for an answer to be placed in a particular band.

Weak performance in one area may be compensated for by strong performance in others. In order to access the top band, issues, debates and/or approaches need to be addressed effectively.

### AO2/3 Mark Bands – Best Fit

#### 16-13 marks Effective

Evaluation demonstrates sound analysis, understanding and interpretation.

The answer is well focused and shows coherent elaboration and/or a clear line of argument.

Issues/debates/approaches are used effectively.

Ideas are well structured and expressed clearly and fluently. Consistently effective use of psychological terminology. Appropriate use of grammar, punctuation and spelling.

#### 12-9 marks Reasonable

Evaluation demonstrates reasonable analysis and understanding.

The answer is generally focused and shows reasonable elaboration and/or a line of argument is evident.

Issues/debates/approaches are used in a reasonably effective manner.

Most ideas appropriately structured and expressed clearly. Appropriate use of psychological terminology. Minor errors of grammar, punctuation and spelling only occasionally compromise meaning.

#### 8-5 marks Basic

Evaluation demonstrates basic, superficial understanding.

The answer is sometimes focused and shows some evidence of elaboration.

Superficial reference may be made to issues/debates/approaches

Expression of ideas lacks clarity. Limited use of psychological terminology. Errors of grammar, punctuation and spelling are intrusive

#### 4-1 marks Rudimentary

Evaluation is rudimentary, demonstrating a very limited understanding.

The answer is weak, muddled and incomplete. Material is not used effectively and may be mainly irrelevant.

If reference is made to issues/debates/approaches, it is muddled and inaccurate.

Deficiency in expression of ideas results in confusion and ambiguity. The answer lacks structure, often merely a series of unconnected assertions. Errors of grammar, punctuation and spelling are frequent and intrusive.

#### 0 marks

No creditworthy material is presented.

## Perception

### Question 03

#### Outline Gibson's theory of perception

(4 marks)

**AO1 = 4 marks** Outline of Gibson's theory of perception

Gibson's theory of perception is a direct or bottom-up theory. Perception is driven by information received by our senses. Important features include the optic array, which contains invariant information (information that does not change as the observer moves), optic flow, texture gradients which help the perception of depth and orientation, and affordances. Examiners should be sensitive to the time constraints of this question part. However answers in the top band should demonstrate understanding of the principles of Gibson's approach (its bottom-up nature), along with reference to at least three key features of the theory.

#### AO1 4 marks knowledge and understanding

<p><b>4 marks Sound</b>          Knowledge and understanding are accurate and well detailed.          A good range of relevant material has been selected          There is substantial evidence of breadth and depth .          Organisation and structure of the answer are coherent</p>
<p><b>3 marks Reasonable</b>          Knowledge and understanding are generally accurate and reasonably detailed.          A range of relevant material has been selected          There is evidence of breadth and/or depth .          Organisation and structure of the answer are reasonably coherent</p>
<p><b>2 marks Basic</b>          Knowledge and understanding are basic/relatively superficial          A restricted range of material has been presented          Organisation and structure of the answer are basic</p>
<p><b>1 mark Rudimentary</b>          Knowledge and understanding are rudimentary and may be muddled and/or inaccurate          The material presented may be very brief or largely irrelevant          Lacks organisation and structure</p>
<p><b>0 marks</b>          no creditworthy material</p>

### Question 04

#### Outline and evaluate Gregory's theory of perception

(4 marks + 16 marks)

**AO1 = 4 marks** Outline of Gregory's theory of perception

Gregory's theory of perception is an indirect or top-down theory. The key principle is that perception is influenced by top down processes such as motivation, previous experience and perceptual set, and involves processes such as hypothesis testing. Examiners should be sensitive to the time constraints of this question part. However answers in the top band should be coherent and demonstrate understanding of the principles of Gregory's approach (its top down nature), along with reference to at least three relevant aspects of the theory.

**AO1 4 marks knowledge and understanding**

<p><b>4 marks Sound</b>  Knowledge and understanding are accurate and well detailed.  A good range of relevant material has been selected  There is substantial evidence of breadth and depth .  Organisation and structure of the answer are coherent</p>
<p><b>3 marks Reasonable</b>  Knowledge and understanding are generally accurate and reasonably detailed.  A range of relevant material has been selected  There is evidence of breadth and/or depth .  Organisation and structure of the answer are reasonably coherent</p>
<p><b>2 marks Basic</b>  Knowledge and understanding are basic/relatively superficial  A restricted range of material has been presented  Organisation and structure of the answer are basic</p>
<p><b>1 mark Rudimentary</b>  Knowledge and understanding are rudimentary and may be muddled and/or inaccurate  The material presented may be very brief or largely irrelevant  Lacks organisation and structure</p>
<p><b>0 marks</b>  no creditworthy material</p>

**AO2/3 = 16 marks** Evaluation of Gregory's theory of perception

The main source of AO2/3 credit is likely to be findings from research studies. These may involve visual illusions such as the Ames room and Muller-Lyer, though findings from such studies must be explicitly related to Gregory's theory to earn credit beyond rudimentary. There are also a number of relevant studies into the effects of motivation, set, and expectation on visual perception. Methodological evaluation of studies may only earn AO2/3 marks if implications for the theory (via the reliability and validity of findings) are clear and explicit.

Although it is clear that top-down processes can influence visual perception, support for Gregory has been criticized as being based on visual illusions and studies in artificial laboratory settings that emphasise inaccuracies in perception. In reality, perception in the real world is impressively and consistently accurate, providing some support for Gibson's alternative proposal that the visual array alone can provide enough bottom-up information for accurate perception. Comparison with alternative theories such as Gibson and Marr would be creditworthy if part of sustained and effective commentary. However, note that it is the quality of the AO2/3 material that should be assessed; candidates may focus on supporting research evidence, or present a more balanced view. Either route can lead to marks in the top band if the material is used effectively.

Issues, debates and approaches in this area include nature-nurture. Gregory, with his emphasis on the role of learning and experience in perception, is very much on the nurture/environmental side of the argument. This can be compared with Gibson's bottom-up approach which is far more on the nature side, Examiners should also be alert to IDA outside the 'routine' list such as real world applications of research findings. Issues debates and approaches must be used effectively and demonstrate understanding in order to earn marks.

AO2/3 material should first be placed in the appropriate band according to the descriptors. However, not all the criteria need be satisfied for an answer to be placed in a particular band. Weak performance in one area may be compensated for by strong performance in others. In order to access the top band, issues, debates and/or approaches need to be addressed effectively.

### AO2/3 Mark Bands – Best Fit

#### 16-13 marks Effective

Evaluation demonstrates sound analysis, understanding and interpretation. The answer is well focused and shows coherent elaboration and/or a clear line of argument. Issues/debates/approaches are used effectively. Ideas are well structured and expressed clearly and fluently. Consistently effective use of psychological terminology. Appropriate use of grammar, punctuation and spelling.

#### 12-9 marks Reasonable

Evaluation demonstrates reasonable analysis and understanding. The answer is generally focused and shows reasonable elaboration and/or a line of argument is evident. Issues/debates/approaches are used in a reasonably effective manner. Most ideas appropriately structured and expressed clearly. Appropriate use of psychological terminology. Minor errors of grammar, punctuation and spelling only occasionally compromise meaning.

#### 8-5 marks Basic

Evaluation demonstrates basic, superficial understanding. The answer is sometimes focused and shows some evidence of elaboration. Superficial reference may be made to issues/debates/approaches. Expression of ideas lacks clarity. Limited use of psychological terminology. Errors of grammar, punctuation and spelling are intrusive.

#### 4-1 marks Rudimentary

Evaluation is rudimentary, demonstrating a very limited understanding. The answer is weak, muddled and incomplete. Material is not used effectively and may be mainly irrelevant. If reference is made to issues/debates/approaches, it is muddled and inaccurate. Deficiency in expression of ideas results in confusion and ambiguity. The answer lacks structure, often merely a series of unconnected assertions. Errors of grammar, punctuation and spelling are frequent and intrusive.

#### 0 marks

No creditworthy material is presented.



## Relationships

### Question 05

**Discuss sex differences in parental investment**

**(8 marks + 16 marks)**

**AO1 = 8 marks** Description of sex differences in parental investment

The focus of this question is on parental behaviour, and Trivers' parental investment theory is likely to form the focus of most answers. This states that the sex most involved in bearing and caring for the offspring is likely to be the choosier when it comes to mates. In humans this is the female. As she has a limited supply of eggs, carries the baby for nine months, and is most likely to be responsible for its care over the following years, she needs to be choosier when it comes to mates. Males, on the other hand, have an almost unlimited supply of sperm and little obligatory involvement in care for the offspring. Their most effective strategy would seem to be to mate with as many females as possible i.e. to be less choosy but to prioritise reproductive potential. Other aspects of sex differences in parental investment include parent-offspring conflict and paternal uncertainty – the female knows she is the mother, but males can never be sure they are the father. Implications of this include mate retention strategies and sex differences in attitudes to jealousy. There are also implications for attitudes to stepchildren. The evolutionary approach assumes the aim of mating is to ensure the success of your genetic material. This would predict that stepparents would not care as much for stepchildren as for their biological children.

Other features of reproductive behaviour, such as mate choice, can be directly relevant to the issue of parental investment. However such material must be presented in the context of parental investment to earn marks. For example, explanations for female mate choice such as the 'sexy sons' hypothesis, or Zahavi's 'handicap' approach are unlikely to be directly relevant to parental investment, which is the degree to which parents contribute to the care and upbringing of offspring.

The Specification refers only to 'sex differences in parental investment', which might include research with non-human animals. However it is a subsection of 'Evolutionary explanations of human reproductive behaviour', and as such the focus must be on human behaviour for marks across the scale. Research with non-human animals can be used to illustrate or emphasise particular points and earn marks, but answers focusing entirely or predominantly on non-human animals will not move out of Basic for AO1 or AO2/3.

### **AO1 8 marks knowledge and understanding**

#### **8-7 marks Sound**

Knowledge and understanding are accurate and well detailed.  
A good range of relevant material has been selected  
There is substantial evidence of breadth and depth .  
Organisation and structure of the answer are coherent

#### **6-5 marks Reasonable**

Knowledge and understanding are generally accurate and reasonably detailed.  
A range of relevant material has been selected  
There is evidence of breadth and/or depth .  
Organisation and structure of the answer are reasonably coherent

#### **4-3 marks Basic**

Knowledge and understanding are basic/relatively superficial  
A restricted range of material has been presented

<p>Organisation and structure of the answer are basic</p> <p><b>2-1 mark Rudimentary</b>  Knowledge and understanding are rudimentary and may be muddled and/or inaccurate  The material presented may be very brief or largely irrelevant  Lacks organisation and structure</p> <p><b>0 marks</b>  no creditworthy material</p>
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**AO2/3 = 16 marks** Commentary on sex differences in parental investment

There are a number of studies on contemporary mating and parenting patterns can be used to either support or contradict Triver's parental investment theory, including some research with non-human animals.

There are also a number of studies on relevant areas such as parent-offspring conflict, reactions to infidelity, and paternal uncertainty that are likely to provide a key source of AO2/3 marks.

Candidates may also use Buss's 1989 study of 37 cultures, looking at mate choice in the context of evolutionary ideas on parental investment. There was impressive cross-cultural agreement that females value financial prospects, ambition and industriousness more than men, while men value good looks and a younger partner more than females. However, for full credit such studies must be interpreted in terms of sex differences in parental investment rather than sexual selection. Given that Buss's study is essentially on mate choice answers focusing on his work are unlikely to move out of the basic band.

Similarly, popular studies on attitudes to casual sex (e.g. Clark & Hatfield, 1989) can only earn AO2/3 credit if discussed explicitly in the context of sex differences in parental investment.

Further commentary could include social and cultural changes that have dramatically affected parenting patterns, such as the increasing number of females in the workplace and the greater sharing of the parental role. These are largely ignored by the evolutionary approach, which is also impossible to test experimentally and which tends to make non-falsifiable statements.

Issues, debates and approaches in this area include the free will-determinism debate. The evolutionary approach states that we choose mates in order to reproduce and on the basis that females require resources and support, while men want to spread their genes as widely as possible and so look for reproductive potential and invest less in the parental role. This is heavily determinist and there are obvious counter examples; couples where the man is much younger, men who are monogamous and faithful, women who are unfaithful, heterosexual couples who have chosen not to have children, homosexual couples, stepparents who love their stepchildren etc. Social and cultural change has led to an emphasis on choice and free will in mating and parenting.

Examiners should also be alert to IDA outside the 'routine' list, such as social sensitivity of the research and perpetuating gender stereotypes. Issues debates and approaches must be used effectively and demonstrate understanding in order to earn marks.

Note that general commentary on the evolutionary approach, such as the issue of falsifiability, cannot earn marks beyond rudimentary unless explicitly linked to parental investment.

AO2/3 material should first be placed in the appropriate band according to the descriptors. However, not all the criteria need be satisfied for an answer to be placed in a particular band.

Weak performance in one area may be compensated for by strong performance in others. In order to access the top band, issues, debates and/or approaches need to be addressed effectively.

### AO2/3 Mark Bands – Best Fit

#### 16-13 marks Effective

Commentary demonstrates sound analysis, understanding and interpretation. The answer is well focused and shows coherent elaboration and/or a clear line of argument. Issues/debates/approaches are used effectively. Ideas are well structured and expressed clearly and fluently. Consistently effective use of psychological terminology. Appropriate use of grammar, punctuation and spelling.

#### 12-9 marks Reasonable

Commentary demonstrates reasonable analysis and understanding. The answer is generally focused and shows reasonable elaboration and/or a line of argument is evident. Issues/debates/approaches are used in a reasonably effective manner. Most ideas appropriately structured and expressed clearly. Appropriate use of psychological terminology. Minor errors of grammar, punctuation and spelling only occasionally compromise meaning.

#### 8-5 marks Basic

Commentary demonstrates basic, superficial understanding. The answer is sometimes focused and shows some evidence of elaboration. Superficial reference may be made to issues/debates/approaches. Expression of ideas lacks clarity. Limited use of psychological terminology. Errors of grammar, punctuation and spelling are intrusive.

#### 4-1 marks Rudimentary

Commentary is rudimentary, demonstrating a very limited understanding. The answer is weak, muddled and incomplete. Material is not used effectively and may be mainly irrelevant. If reference is made to issues/debates/approaches, it is muddled and inaccurate. Deficiency in expression of ideas results in confusion and ambiguity. The answer lacks structure, often merely a series of unconnected assertions. Errors of grammar, punctuation and spelling are frequent and intrusive.

#### 0 marks

No creditworthy material is presented.

## Aggression

### Question 06

**Outline neural and/or hormonal mechanisms in aggression. (4 marks)**

**AO1 = 4 marks** Outline of neural and/or hormonal mechanisms in aggression

There is a long tradition of research into the neural (brain) and hormonal mechanisms underlying aggressive behaviour. Much of the early work was carried out on non-human animals, but over the last twenty years new technologies have allowed this to be extended into work with humans. Either approach is acceptable. Classic models such as the Papez-Maclean limbic theory involving structures such as the amygdala, septum, and hippocampus have been extended in order to account for conditions such as psychopathy and reactive aggression in humans; areas such as the amygdala, cingulate and prefrontal cortex have been implicated.

Note that neurotransmitters such as serotonin, dopamine and noradrenaline are a critical component of neural mechanisms and as such are creditworthy as neural mechanisms. There is contradictory research evidence on their role in aggression. For example, both increases and decreases in serotonin activity have been linked to increased aggression. As long as research evidence is presented accurately and interpreted appropriately there is no requirement for both sides of the argument to be presented. However, note that the question does not *require* reference to research evidence, though this would be an effective way of illustrating mechanisms. Detailed and accurate outlines of the mechanisms themselves would be sufficient for marks in the top band.

On the hormonal side most research has focused on the role of testosterone in human and animal aggression. Examiners should be sensitive to depth/breadth trade-offs in answers covering both neural and hormonal mechanisms, and also to the time constraints of this question part.

Candidates may introduce material on genetic factors in aggression. Such material cannot earn marks *unless* the implications for neural/hormonal mechanisms are explicit e.g. the association between genetic factors and levels of neurotransmitters.

Candidates are required to cover at least two mechanisms. Those outlining only one are exhibiting partial performance and may receive a maximum of 3 marks. A balance between two mechanisms is **not** required for the top band.

### AO1 4 marks knowledge and understanding

<b>4 marks Sound</b> Knowledge and understanding are accurate and well detailed. Organisation and structure of the answer are coherent
<b>3 marks Reasonable</b> Knowledge and understanding are generally accurate and reasonably detailed. Organisation and structure of the answer are reasonably coherent
<b>2 marks Basic</b> Knowledge and understanding are basic/relatively superficial Organisation and structure of the answer are basic
<b>1 mark Rudimentary</b> Knowledge and understanding are rudimentary and may be very brief, muddled and/or inaccurate Lacks organisation and structure
<b>0 marks</b> no creditworthy material

**Question 07**

**Outline and evaluate one social psychological theory of aggression. (4 marks + 16 marks)**

**AO1 = 4 marks** Outline of one social psychological theory of aggression.

Examples of social psychological theories of aggression in the Specification are social learning theory and deindividuation, and candidates are likely to focus on these. Top band answers should be accurate and well detailed, so for social learning theory some of the major processes must be outlined; these should include observation, modelling and vicarious reinforcement, For deindividuation a variety of processes may be involved, such as anonymity, and decreased self-assessment and self-awareness.

Note that description of studies that shows no knowledge of theory cannot earn AO1 credit.

Some answers may focus on institutional aggression. These may earn marks insofar as there is a clear focus on the question and social psychological theory. For instance, deprivation of material goods would not qualify, but deprivation of family would. Importation of aggression would only be relevant if the social origins of aggression were clear. Credit would depend upon the range, accuracy and detail of relevant material.

Examiners should bear in mind that only 4 AO1 marks are available for this question.

**AO1 4 marks knowledge and understanding**

<p><b>4 marks Sound</b>          Knowledge and understanding are accurate and well detailed.          Organisation and structure of the answer are coherent</p>
<p><b>3 marks Reasonable</b>          Knowledge and understanding are generally accurate and reasonably detailed.          Organisation and structure of the answer are reasonably coherent</p>
<p><b>2 marks Basic</b>          Knowledge and understanding are basic/relatively superficial          Organisation and structure of the answer are basic</p>
<p><b>1 mark Rudimentary</b>          Knowledge and understanding are rudimentary and may be very brief, muddled and/or inaccurate          Lacks organisation and structure</p>
<p><b>0 marks</b>          no creditworthy material</p>

**AO2/3 = 16 marks** Evaluation of one social psychological theory of aggression.

The main source of AO2/3 marks is likely to be the findings of research studies. Implications of the research cited for the target theory must be explicit for marks in the top bands. This may be a particular problem for complex studies such as Zimbardo's original prison study. Credit may only be given if Zimbardo's findings are clearly linked to the theory under discussion. Methodological evaluation of studies is likely to be popular, but may only earn AO2/3 marks if implications for the theory (via the reliability and validity of findings) are clear and explicit. Detailed description of the

procedures and findings of Bandura's Bobo doll studies, without reference to the theory, cannot move beyond Rudimentary.

Comparison with alternative explanations, such as the role of genetics or evolutionary approaches, may earn AO2/3 credit if used effectively as AO2/3. Simple description of alternatives will not earn marks.

Issues, debates and approaches in this area include nature and nurture. Social learning theory in particular emphasises imitation, learning, and the influence of models. This is very much a 'nurture' explanation. It ignores the established importance of biological (e.g. brain neurotransmitters), genetic and evolutionary factors in aggressive behaviour. Candidates may also refer to gender and cultural differences and biases, and ethical issues in social psychological research and research with children. Examiners should also be alert to IDA outside the 'routine' list, such as the implications of research findings for the effects of media on aggression. Issues debates and approaches must be used effectively and demonstrate understanding in order to earn marks.

AO2/3 material should first be placed in the appropriate band according to the descriptors. However, not all the criteria need be satisfied for an answer to be placed in a particular band. Weak performance in one area may be compensated for by strong performance in others. In order to access the top band, issues, debates and/or approaches need to be addressed effectively.

### AO2/3 Mark Bands – Best Fit

#### 16-13 marks Effective

Evaluation demonstrates sound analysis, understanding and interpretation.

The answer is well focused and shows coherent elaboration and/or a clear line of argument.

Issues/debates/approaches are used effectively.

Ideas are well structured and expressed clearly and fluently. Consistently effective use of psychological terminology. Appropriate use of grammar, punctuation and spelling.

#### 12-9 marks Reasonable

Evaluation demonstrates reasonable analysis and understanding.

The answer is generally focused and shows reasonable elaboration and/or a line of argument is evident.

Issues/debates/approaches are used in a reasonably effective manner.

Most ideas appropriately structured and expressed clearly. Appropriate use of psychological terminology. Minor errors of grammar, punctuation and spelling only occasionally compromise meaning.

#### 8-5 marks Basic

Evaluation demonstrates basic, superficial understanding.

The answer is sometimes focused and shows some evidence of elaboration.

Superficial reference may be made to issues/debates/approaches

Expression of ideas lacks clarity. Limited use of psychological terminology. Errors of grammar, punctuation and spelling are intrusive

#### 4-1 marks Rudimentary

Evaluation is rudimentary, demonstrating a very limited understanding.

The answer is weak, muddled and incomplete. Material is not used effectively and may be mainly irrelevant.

If reference is made to issues/debates/approaches, it is muddled and inaccurate.

Deficiency in expression of ideas results in confusion and ambiguity. The answer lacks structure, often merely a series of unconnected assertions. Errors of grammar, punctuation and spelling are frequent and intrusive.

#### 0 marks

No creditworthy material is presented.

## Eating Behaviour

### Question 08

**Discuss evolutionary explanations of food preference.**

**(8 marks + 16 marks)**

**AO1 = 8 marks** Description of evolutionary explanations of food preference

There is a range of material available in this area. Candidates are likely to focus on taste preferences (preferences for sweet, salty and umami, avoidance of sour and bitter) and their adaptive significance. Sweet and umami tastes indicate carbohydrates and protein, basic to survival, salt is essential for cell function, sour and bitter indicate toxins and poisons. Other approaches might include the value of moving to an omnivorous diet and the significance of meat eating for the development for brain size and intelligence. Examiners must be alert to unfamiliar material that is in fact relevant to the question and creditable. An example would be taste aversion learning, where animals, including humans, rapidly learn to avoid foods that are associated with sickness. If the evolutionary basis of this behaviour is explicit, such material is creditworthy.

In addition, overarching evolutionary explanations such as natural selection and survival can be directly relevant and creditworthy.

Although there are technically partial performance criteria for candidates covering only one 'explanation', there can be substantial overlap between evolutionary explanations. Partial performance criteria will not apply, but answers restricted to a limited range of material are unlikely to move out of Basic for either AO1 or AO2/3.

### **AO1 8 marks knowledge and understanding**

#### **8-7 marks Sound**

Knowledge and understanding are accurate and well detailed.  
A good range of relevant material has been selected  
There is substantial evidence of breadth and depth .  
Organisation and structure of the answer are coherent

#### **6-5 marks Reasonable**

Knowledge and understanding are generally accurate and reasonably detailed.  
A range of relevant material has been selected  
There is evidence of breadth and/or depth .  
Organisation and structure of the answer are reasonably coherent

#### **4-3 marks Basic**

Knowledge and understanding are basic/relatively superficial  
A restricted range of material has been presented  
Organisation and structure of the answer are basic

#### **2-1 mark Rudimentary**

Knowledge and understanding are rudimentary and may be muddled and/or inaccurate  
The material presented may be very brief or largely irrelevant  
Lacks organisation and structure

#### **0 marks**

no creditworthy material

**AO2/3 = 16 marks** Commentary on evolutionary explanations of food preferences

Research studies on food preferences in babies, children and non-human animals would be a key source of AO2/3 credit. Methodological evaluation of studies may also be creditworthy, but may only earn marks beyond rudimentary if the implications for evolutionary explanations of food preferences are clear. Studies in areas such as taste aversion learning and changes in food preference associated with e.g. pregnancy may be popular, but again can only earn credit if discussed in the context of evolutionary explanations of food preference.

More general commentary may include changes in food preference with age and experience, and the possible role of non-evolutionary factors such as familiarity, modelling and social/cultural factors. These must be discussed in relation to evolutionary explanations to earn AO2/3 marks.

Generic evaluation of evolutionary explanations would also be relevant and creditable, while evolutionary explanations of eating disorders can earn marks if explicitly shaped towards the issue of food preference.

Issues, debates and approaches in this area include biological determinism. The evolutionary approach argues that our food preferences are determined by factors inherited from the EEA, so that high levels of obesity, for instance, arise because our inherited preference for sweet foods was highly adaptive in the EEA. Now that foods are widely available in developed countries we over consume sweet foods high in carbohydrates. Evolutionarily determined food preferences are maladaptive in the face of social and cultural change. Candidates may also refer to biological reductionism, general problems with the evolutionary approach, and nature-nurture. Examiners should also be alert to IDA outside the 'routine' list, such as the application of findings in this area to weight control programmes. Issues debates and approaches must be used effectively and demonstrate understanding in order to earn marks.

AO2/3 material should first be placed in the appropriate band according to the descriptors. However, not all the criteria need be satisfied for an answer to be placed in a particular band. Weak performance in one area may be compensated for by strong performance in others. In order to access the top band, issues, debates and/or approaches need to be addressed effectively.

**AO2/3 Mark Bands – Best Fit****16-13 marks Effective**

Commentary demonstrates sound analysis, understanding and interpretation. The answer is well focused and shows coherent elaboration and/or a clear line of argument. Issues/debates/approaches are used effectively. Ideas are well structured and expressed clearly and fluently. Consistently effective use of psychological terminology. Appropriate use of grammar, punctuation and spelling.

**12-9 marks Reasonable**

Commentary demonstrates reasonable analysis and understanding. The answer is generally focused and shows reasonable elaboration and/or a line of argument is evident. Issues/debates/approaches are used in a reasonably effective manner. Most ideas appropriately structured and expressed clearly. Appropriate use of psychological terminology. Minor errors of grammar, punctuation and spelling only occasionally compromise meaning.

**8-5 marks Basic**

Commentary demonstrates basic, superficial understanding.



<p>The answer is sometimes focused and shows some evidence of elaboration. Superficial reference may be made to issues/debates/approaches. Expression of ideas lacks clarity. Limited use of psychological terminology. Errors of grammar, punctuation and spelling are intrusive.</p>
<p><b>4-1 marks Rudimentary</b> Commentary is rudimentary, demonstrating a very limited understanding. The answer is weak, muddled and incomplete. Material is not used effectively and may be mainly irrelevant. If reference is made to issues/debates/approaches, it is muddled and inaccurate. Deficiency in expression of ideas results in confusion and ambiguity. The answer lacks structure, often merely a series of unconnected assertions. Errors of grammar, punctuation and spelling are frequent and intrusive.</p>
<p><b>0 marks</b> No creditworthy material is presented.</p>

**Gender****Question 09****Discuss gender schema theory.****(8 marks + 16 marks)****AO1 = 8 marks** Description of gender schema theory.

AO1 material will be a description of gender schema theory eg Martin & Halverson. This is based on the development of gender identity (boy or girl) at about age 2-3, after which the child actively seeks out appropriate behaviours for their own gender and ignores information that does not 'fit' with their schema. Toys, for instance, become categorised as belonging to boys or girls. The development of gender schemas also leads to the formation of ingroups and outgroups. The concept of 'schemas' is difficult to understand and describe at this level. Therefore AO1 marks should be based on the demonstration of *understanding*, rather than simply on the amount of AO1 material presented.

Various aspects of schemas would also be creditworthy. These include outlines of what a schema is and how they develop and become more detailed and elaborate over time. The origins of gender schemas would also be relevant. Although not completely detailed, there is evidence that parent's gender schemas play an important role.

**AO1 8 marks knowledge and understanding**

<p><b>8-7 marks Sound</b>          Knowledge and understanding are accurate and well detailed.          A good range of relevant material has been selected          There is substantial evidence of breadth and depth          Organisation and structure of the answer are coherent</p>
<p><b>6-5 marks Reasonable</b>          Knowledge and understanding are generally accurate and reasonably detailed.          A range of relevant material has been selected          There is evidence of breadth and/or depth          Organisation and structure of the answer are reasonably coherent</p>
<p><b>4-3 marks Basic</b>          Knowledge and understanding are basic/relatively superficial          A restricted range of material has been presented          Organisation and structure of the answer are basic</p>
<p><b>2-1 mark Rudimentary</b>          Knowledge and understanding are rudimentary and may be muddled and/or inaccurate          The material presented may be very brief or largely irrelevant          Lacks organisation and structure</p>
<p><b>0 marks</b>          no creditworthy material</p>

**AO2/3 – 16 marks** Commentary/Evaluation of gender schema theory

There are a number of relevant research studies that would provide an effective route to AO2/3 credit. These generally focus on the early development of gender schemas (e.g Campbell et al., 2004) or the influence of parents (e.g. Tenenbaum & Leaper, 2002). Other studies investigate ingroup and outgroup processes, or the rigidity of gender stereotypes. It is important for marks above Basic that implications of findings for gender schema theory are clear. Methodological

evaluation of studies may earn marks if the implications for the theory (e.g. through the reliability and validity of findings) are clear.

Comparison with alternative theories e.g. Kohlberg, or the biosocial approach to gender, would be another effective source of AO2/3 credit, as long as the focus remains on gender schema theory. General commentary might include the success of gender schema theory in explaining the rigidity of gender stereotypes, or the lack of detail in explaining the origins of schema.

Issues, debates and approaches in this area include the relative contributions of genetics and the environment to gender development i.e. the nature-nurture debate. Gender schema theory emphasises the importance of parents and peers in the formation and maintenance of schema, while the biological approach emphasises the genetic unchangeable nature of gender development. There is evidence for both sides of the argument, which is why the biosocial approach to gender development is increasingly popular. Candidates may also refer to gender differences and biases, cultural differences and biases, free will and determinism, and the ethics of research with children. Examiners should also be alert to IDA outside the 'routine' list, such as the application of theory to child rearing practices. Issues debates and approaches must be used effectively and demonstrate understanding in order to earn marks.

AO2/3 material should first be placed in the appropriate band according to the descriptors. However, not all the criteria need be satisfied for an answer to be placed in a particular band. Weak performance in one area may be compensated for by strong performance in others. In order to access the top band, issues, debates and/or approaches need to be addressed effectively.

### AO2/3 Mark Bands – Best Fit

#### 16-13 marks Effective

Commentary/evaluation demonstrates sound analysis, understanding and interpretation. The answer is well focused and shows coherent elaboration and/or a clear line of argument. Issues/debates/approaches are used effectively. Ideas are well structured and expressed clearly and fluently. Consistently effective use of psychological terminology. Appropriate use of grammar, punctuation and spelling.

#### 12-9 marks Reasonable

Commentary/evaluation demonstrates reasonable analysis and understanding. The answer is generally focused and shows reasonable elaboration and/or a line of argument is evident. Issues/debates/approaches are used in a reasonably effective manner. Most ideas appropriately structured and expressed clearly. Appropriate use of psychological terminology. Minor errors of grammar, punctuation and spelling only occasionally compromise meaning.

#### 8-5 marks Basic

Commentary/evaluation demonstrates basic, superficial understanding. The answer is sometimes focused and shows some evidence of elaboration. Superficial reference may be made to issues/debates/approaches. Expression of ideas lacks clarity. Limited use of psychological terminology. Errors of grammar, punctuation and spelling are intrusive.

#### 4-1 marks Rudimentary

Commentary/evaluation is rudimentary, demonstrating a very limited understanding. The answer is weak, muddled and incomplete. Material is not used effectively and may be mainly irrelevant.

If reference is made to issues/debates/approaches, it is muddled and inaccurate. Deficiency in expression of ideas results in confusion and ambiguity. The answer lacks structure, often merely a series of unconnected assertions. Errors of grammar, punctuation and spelling are frequent and intrusive.

**0 marks**

No creditworthy material is presented.

## Intelligence and Learning

### Question 10

**Outline and evaluate research studies which have investigated intelligence in non-human animals. (8 marks + 16 marks)**

**AO1 = 8 marks** Outline of research studies investigating intelligence in non-human animals

Examples of research studies of intelligence in non-human animals are likely to include Machiavellian intelligence (tactical deception, manipulation of others, forming alliances etc), and self-recognition linked to theory of mind and self-awareness. Further acceptable examples could include tool use, foraging, imitation, social learning, complex social behaviours, and complex communication. Criteria for marks in the upper bands will be accuracy and detail of the studies outlined. Examiners should be sensitive to depth-breadth trade-offs in answers, for example, that cover two studies in detail as opposed to outlining several studies more superficially.

Classical and operant conditioning would not be creditworthy for this question.

Partial performance criteria apply to the AO1 and AO2/3 marks for this question. Answers that focus only on one study can receive a maximum of 5 marks for AO1 and 9 marks for AO2/3.

### AO1 8 marks knowledge and understanding

<p><b>8-7 marks Sound</b>          Knowledge and understanding are accurate and well detailed.          A good range of relevant material has been selected          There is substantial evidence of breadth and depth .          Organisation and structure of the answer are coherent</p>
<p><b>6-5 marks Reasonable</b>          Knowledge and understanding are generally accurate and reasonably detailed.          A range of relevant material has been selected          There is evidence of breadth and/or depth .          Organisation and structure of the answer are reasonably coherent          Partial performance is <b>sound (maximum 5 marks)</b></p>
<p><b>4-3 marks Basic</b>          Knowledge and understanding are basic/relatively superficial          A restricted range of material has been presented          Organisation and structure of the answer are basic          Partial performance is <b>reasonable</b></p>
<p><b>2-1 mark Rudimentary</b>          Knowledge and understanding are rudimentary and may be muddled and/or inaccurate          The material presented may be very brief or largely irrelevant          Lacks organisation and structure          Partial performance is <b>basic</b></p>
<p><b>0 marks</b>          no creditworthy material</p>

**AO2/3 = 16 marks** Evaluation of research studies investigating intelligence in non-human animals

Interpretation and implications of findings should provide one main source of AO2/3 marks, as there are by now many studies on intelligent behaviour in non-human animals. Implications of findings may include evidence for self-awareness and/or levels of intelligence that appear similar to human intelligence. Alternatively findings might imply that so-called intelligent behaviour in non-human animals can be explained through basic associative learning principles such as classical and operant conditioning.

Methodological evaluation of studies would be another direct and important source of AO2/3 marks e.g. the relatively uncontrolled nature of the ‘mirror’ paradigm for self-recognition, and the lack of control in observational field studies.

General commentary on findings might include the evolution of intelligence, the role of ‘intelligence’ in animal behaviour and reproductive success, and comparison between species and also comparison with human intelligence.

Issues, debates and approaches in this area include the debate on the role of animals in research. If it can be shown that some animal species have high levels of intelligence, perhaps linked to social behaviour, it implies that they are more similar to humans than was once thought. On the one hand this justifies using non-human animals in psychological research as results can possibly be generalised to humans, but on the other hand it suggests that they would be highly sensitive to psychological and physical harm, and so should not be used. Candidates may also refer to the nature-nurture debate in this area. Issues debates and approaches must be used effectively and demonstrate understanding in order to earn marks.

AO2/3 material should first be placed in the appropriate band according to the descriptors. However, not all the criteria need be satisfied for an answer to be placed in a particular band. Weak performance in one area may be compensated for by strong performance in others. In order to access the top band, issues, debates and/or approaches need to be addressed effectively.

**AO2/3 Mark Bands – Best Fit****16-13 marks Effective**

Evaluation demonstrates sound analysis, understanding and interpretation.  
The answer is well focused and shows coherent elaboration and/or a clear line of argument.  
Issues/debates/approaches are used effectively.  
Ideas are well structured and expressed clearly and fluently. Consistently effective use of psychological terminology. Appropriate use of grammar, punctuation and spelling.

**12-9 marks Reasonable**

Evaluation demonstrates reasonable analysis and understanding.  
The answer is generally focused and shows reasonable elaboration and/or a line of argument is evident.  
Issues/debates/approaches are used in a reasonably effective manner.  
Most ideas appropriately structured and expressed clearly. Appropriate use of psychological terminology. Minor errors of grammar, punctuation and spelling only occasionally compromise meaning.  
Partial performance is **effective (maximum 9 marks)**

**8-5 marks Basic**

<p>Evaluation demonstrates basic, superficial understanding. The answer is sometimes focused and shows some evidence of elaboration. Superficial reference may be made to issues/debates/approaches Expression of ideas lacks clarity. Limited use of psychological terminology. Errors of grammar, punctuation and spelling are intrusive Partial performance is <b>reasonable</b></p>
<p><b>4-1 marks Rudimentary</b> Evaluation is rudimentary, demonstrating a very limited understanding. The answer is weak, muddled and incomplete. Material is not used effectively and may be mainly irrelevant. If reference is made to issues/debates/approaches, it is muddled and inaccurate. Deficiency in expression of ideas results in confusion and ambiguity. The answer lacks structure, often merely a series of unconnected assertions. Errors of grammar, punctuation and spelling are frequent and intrusive. Partial performance is <b>basic</b></p>
<p><b>0 marks</b> No creditworthy material is presented.</p>

## Cognition and Development

### Question 11

**Discuss the development of children’s understanding of others. (8 marks + 16 marks)**

**AO1 = 8 marks** Description of the development of children’s understanding of others

There is a range of material that could be relevant to this question. Selman’s stages of perspective taking are directly focused on the understanding of others. Order of stages is crucial; however the age ranges of the different stages differs slightly from book to book so examiners should accept ages that are roughly in the appropriate range.

### Selman’s Stages

Undifferentiated (egocentric) perspective-taking	3 - 6 years
Social-informational perspective-taking	5 - 9 years
Self-reflective perspective-taking	7 - 12 years
Third-party (or mutual or bystander) perspective-taking	10 - 15 years
Social and conventional system (societal) perspective-taking	14 - adulthood

Development of theory of mind (ToM) is also directly relevant to the question as it involves children’s understanding of themselves as a precursor to understanding of others. If the link between ToM and understanding of others is explicit answers focusing on the development of theory of mind can earn marks across the scale. If the link is not explicit, such answers on ToM can receive a maximum mark at the top of Basic.

Some candidates may refer to the mirror neuron system and research that underpins this system. If the focus is on the role of mirror neurons in the development of the understanding of others then such material is creditworthy. Note that it may be used as either AO1 description or AO2/3 commentary (explaining the origins of our understanding of others).

Finally, candidates may present stages in the development of the self as it interacts with others e.g. imitation, gaze cueing, protoimperative pointing and pretend play. Such material may earn marks insofar as the focus of the answer is on the understanding of others.

### AO1 8 marks knowledge and understanding

#### 8-7 marks Sound

Knowledge and understanding are accurate and well detailed.  
A good range of relevant material has been selected  
There is substantial evidence of breadth and depth .  
Organisation and structure of the answer are coherent

#### 6-5 marks Reasonable

Knowledge and understanding are generally accurate and reasonably detailed.  
A range of relevant material has been selected  
There is evidence of breadth and/or depth .



<p>Organisation and structure of the answer are reasonably coherent</p>
<p><b>4-3 marks Basic</b>  Knowledge and understanding are basic/relatively superficial  A restricted range of material has been presented  Organisation and structure of the answer are basic</p>
<p><b>2-1 mark Rudimentary</b>  Knowledge and understanding are rudimentary and may be muddled and/or inaccurate  The material presented may be very brief or largely irrelevant  Lacks organisation and structure</p>
<p><b>0 marks</b>  no creditworthy material</p>

**AO2/3 = 16 marks** Commentary on the development of children's understanding of others.

Research evidence should provide effective AO2/3 material whichever approach is taken to the question, as there are many studies investigating the development of the self and the understanding of others. These include studies of both perspective taking and theory of mind. Implications of findings should be clear, and a consideration of inconsistent findings would be an effective source of AO2/3. Methodological evaluation, such as the complicating role of language development and problems of working with small children, would be relevant as it affects the validity and/or reliability of research findings; credit earned would depend on how well the implications of methodological issues are linked to a particular theory. General commentary may include the rapid changes in methods of communication in the digital age, the problem of individual differences, and applications of research to e.g. education. Cultural and gender issues are also central to this area.

Issues, debates and approaches in this area include applications of findings. Some psychological disorders, such as autism, seem to reflect problems in the development of theory of mind, and consequently in the understanding of others. This would help explain some key symptoms of autism, such as the deficits in social communication and social behaviour. Candidates may also refer to cultural differences and bias in research, and the nature-nurture debate. Issues debates and approaches must be used effectively and demonstrate understanding in order to earn marks.

AO2/3 material should first be placed in the appropriate band according to the descriptors. However, not all the criteria need be satisfied for an answer to be placed in a particular band. Weak performance in one area may be compensated for by strong performance in others. In order to access the top band, issues, debates and/or approaches need to be addressed effectively.

**AO2/3 Mark Bands – Best Fit****16-13 marks Effective**

Commentary demonstrates sound analysis, understanding and interpretation. The answer is well focused and shows coherent elaboration and/or a clear line of argument. Issues/debates/approaches are used effectively. Ideas are well structured and expressed clearly and fluently. Consistently effective use of psychological terminology. Appropriate use of grammar, punctuation and spelling.

**12-9 marks Reasonable**

Commentary demonstrates reasonable analysis and understanding. The answer is generally focused and shows reasonable elaboration and/or a line of argument is evident. Issues/debates/approaches are used in a reasonably effective manner. Most ideas appropriately structured and expressed clearly. Appropriate use of psychological terminology. Minor errors of grammar, punctuation and spelling only occasionally compromise meaning.

**8-5 marks Basic**

Commentary demonstrates basic, superficial understanding. The answer is sometimes focused and shows some evidence of elaboration. Superficial reference may be made to issues/debates/approaches. Expression of ideas lacks clarity. Limited use of psychological terminology. Errors of grammar, punctuation and spelling are intrusive.

**4-1 marks Rudimentary**

Commentary is rudimentary, demonstrating a very limited understanding. The answer is weak, muddled and incomplete. Material is not used effectively and may be mainly irrelevant. If reference is made to issues/debates/approaches, it is muddled and inaccurate. Deficiency in expression of ideas results in confusion and ambiguity. The answer lacks structure, often merely a series of unconnected assertions. Errors of grammar, punctuation and spelling are frequent and intrusive.

**0 marks**

No creditworthy material is presented.

## Assessment Objectives

Question	A01	A02/3	Total
01	4		4
02	4	16	20
<b>Total</b>	<b>8</b>	<b>16</b>	<b>24</b>
03	4		4
04	4	16	20
<b>Total</b>	<b>8</b>	<b>16</b>	<b>24</b>
05	8	16	24
<b>Total</b>	<b>8</b>	<b>16</b>	<b>24</b>
06	4		4
07	4	16	20
<b>Total</b>	<b>8</b>	<b>16</b>	<b>24</b>
08	8	16	24
<b>Total</b>	<b>8</b>	<b>16</b>	<b>24</b>
09	8	16	24
<b>Total</b>	<b>8</b>	<b>16</b>	<b>24</b>
10	8	16	24
<b>Total</b>	<b>8</b>	<b>16</b>	<b>24</b>
11	8	16	24
<b>Total</b>	<b>8</b>	<b>16</b>	<b>24</b>