1   Work out the value of $40 - (2 + 3)^2 \div 5$

[1 mark]

Answer _____

2   Which of these does **not** give an answer of 18?

Circle your answer.

[1 mark]

$$30 - 3 \times 6 + 6 \qquad 6 + 3 \times 2 \qquad 5 + 2^3 \times 2 - 3$$

3   Simplify $2 \times 6 \times a \times a \times b \times b \times b$ using index notation

[2 marks]

_____

_____

Answer _____

4 Jean pays for gas, electricity and water every month.

Her gas bill is £G per month.
Her electricity bill is £10 per month more than her gas bill.
Her water bill is half the electricity bill.

Write down an expression for the total cost of the bills for 1 year.

[4 marks]

Answer £ _____

5 Multiply out $7a(3a - 9)$

[2 marks]

Answer _____

6 Expand and simplify

6 (a) $7(2x + 3) + 4(6x + 9)$

[2 marks]

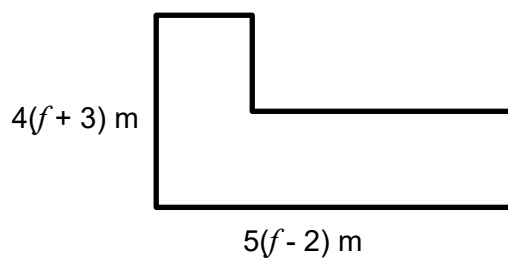Answer _____

6 (b) $8(4y - 3) - 3(5y + 1)$

[3 marks]

Answer _____

7 Fencing is needed to go around a school field as shown.

$4(f + 3)$ m

$5(f - 2)$ m

Work out an expression for the total length of fencing needed.

[4 marks]

Answer _____

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3 of 6

8   Factorise fully:

8 (a) $27n - 36$

[1 mark]

Answer _____

8 (b) $36n^2 - 60n$

[2 marks]

Answer _____

8 (c) $30n^2m^2 - 50n^3m^2$

[2 marks]

Answer _____

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4 of 6

9 Use one of these words to describe each of the following

[3 marks]

Expression   Equation   Identity   Formula   Inequality

9 (a) $5x + 3 = 2x – 6$ _____

9 (b) $6a(2a – 7) \equiv 12a^2 – 42a$ _____

9 (c) $C = 12n + 36$ _____

10 Write down all the integers, n, satisfied by $-8 \leq n < -1$

[2 marks]

Answer _____

11 John gets paid £300 per week for working 35 hours.

He then gets paid £15 per hour for any overtime.

Write down a formula for his total wages, w, when he works h hours overtime.

[1 mark]

Answer £ _____

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5 of 6

12   280 people attended a summer fair.
The total cost for their food was £728.

Hotdogs cost H pence.
Beefburgers cost 20p more than hotdogs.
Ice creams cost twice as much as beefburgers.
Each person ate one hotdog, one beefburger and one ice cream.

Write down an equation in terms of H for this information.

[3 marks]

Answer _____

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6 of 6