1	A college has	
	a total of 105 teachers	
	19 more female teachers than male teachers.	
	What proportion of the teachers are female?	
		[3 marks]

Answer \_\_\_\_

2	Saj makes Rose Pink paint and Cherry Pink paint.
	He mixes red paint with white paint as shown.

## **Rose Pink**

red : white = 1 : 2

## **Cherry Pink**

red: white = 4:3

He makes 60 litres of Rose Pink paint.

To this Rose Pink paint he adds

80 litres of red paint and 28 litres of white paint.

Has he now made Cherry Pink paint?

You **must** show your working.

Tou must show your working.	[4 marks]

3 (a) Tom is tiling a wall.

He needs to buy at least 100 tiles.

The tiles are sold in large packs and small packs.

Large pack 40 tiles £18 Small pack 28 tiles £14

Special offer

25% reduction when you buy 3 or more large packs

Work out the cheapest cost for Tom to buy the packs of tiles he needs.	[3 marks]
Answer f	

**3 (b)** Tom is also tiling a floor.

The floor is a rectangle with length 600 cm and width 240 cm Each tile is a square with side 40 cm

Tom uses this method to work out the number of tiles he needs.

Number of tiles that will fit along the length =  $600 \div 40$ 

= 15

Number of tiles that will fit along the width  $= 240 \div 40$ 

= 6

Total number of tiles needed = 15 + 6

= 21

Give a reason why Tom's method is wrong.

[1 mark]

Kevin and Steve are going to paint an area of 24 m <sup>2</sup>
Kevin says,
"Working together at the same rate it will take us 8 hours, because 24 is 2 $ imes$ 12"
Is he correct?
Tick a box.
Yes No
Give a reason for your answer.  [1 mark]

5	6 cakes cost £10.74	
	Work out the cost of 11 of these cakes.	[2 marks

6

	Cost of 100 grams
Cereal	49p
Pasta	14p

Leah buys 400 grams of cereal and 250 grams of pasta.

Work out the <b>total</b> cost in £	[4 marks]		
Answer £			

7 A machine to clean carpets can be hired.

Machine hire

£25 per day

Cleaning fluid

1-litre bottle £10

2-litre bottle £18

Rana wants to

hire the machine for 1 day

and

buy 5 litres of cleaning fluid.

Work out the <b>smallest</b> total amount she could pay.	[3 marks]	
Answer f		

8 Steve and Molly each buy 480 tea bags.

## Small packs

80 tea bags for £1.90

## Large packs

160 tea bags for £3.25

Steve buys only small packs.

Molly buys only large packs.

In total, how much <b>more</b> than Molly does Steve pay?	[4 marks]

Answer £

How long does it take him to type Give your answer in minutes and	•	5 <i>!</i>	[3 marks
He takes 8 minutes to type a repo		.2	
Sam types a constant number of v	•		

10 (a)	A shop sells bottles of orange juice.  Each bottle costs 75p					
	Work out the greatest number of bottles that can be bought with £5			[2 marks]		
		Answer		-		
10 (b)	Two sho	ops sell bottles of apple juice				
		Shop X pack of 4 bottles Was £2.50 Now 10% off	Shop Z  pack of 12 bottles £7			
		n shop is it cheaper to buy 24 orking to support your answe		[4 marks]		
		Answer				

11

Popcorn is sold in bags.	
8 small bags have a total mass of 496 g	
5 small bags and 2 large bags have a total mass of 638 g	
Work out the mass of a large bag.	
	[4 n

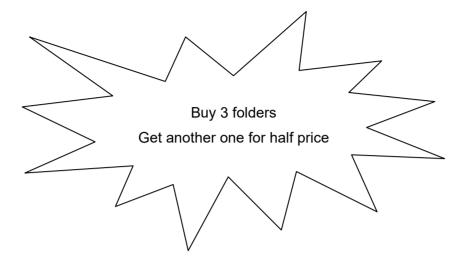
Answer \_\_\_\_\_

12	A shop sells note	books and pencils.		
		<b>Notebooks</b> Pack of 8 for £12	Pencils 56p each or Pack of 6 for £2.70	
12 (a	) Marek buys som The cost is £60	e <b>packs</b> of notebooks.		
	In total, how man	y <b>notebooks</b> does he buy?		[2 marks]
		Answer		
12 (b	) Work out the che	apest cost of 10 pencils.		[3 marks]

Answer £

**12 (c)** The shop also sells folders for £3.20 each.

The shop has this offer.



Work out the cost of 4 folders using the offer.	[3 marks]

Answer £

Bag A and bag B each contain only red discs and green discs.

Bag A Contains 28 red discs  There are twice as many red discs as green discs	
Bag B	Contains 20 green discs There are 3 red discs for every 5 green discs

13 (a)	Work out the <b>total</b> number of discs.	[3 marks]
	<b>A</b>	

<b>14 (a)</b> Jamil rides a motorbik	e.
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The motorbike uses one litre of petrol for every 14 miles.

How many litres of petrol does the motorbike use to go 168 kilometres?

Answer

rks]

litres

15 Two bags, X and Y, each contain coloured discs.

In bag X, 
$$\frac{7}{20}$$
 of the discs are red.

In bag Y, 
$$\frac{2}{5}$$
 of the discs are red.

Which bag has the **greater** proportion of red discs, X or Y?

You must show your working.

working.	[2 marks]

Answer

16	There are 56 cubes in a box.	
	The cubes are green, red, blue or white.	
	17 cubes are green.	
	There are an <b>equal</b> number of red, blue and white cubes.	
16 (a)	How many red cubes are in the box?	[2 marks]
	Answer	

r		٦
17	Rick claims most of the flats in his 8-floor building are energy efficient.  He samples 45 flats from floors 1 to 5	
	Give a reason why this sample may <b>not</b> be useful in testing Rick's claim.	