Name

Key to Five

The PiXL Ladder to Success

- Problem solving
- Dividing by ratio
- Simplifying ratio
- Comparing fraction and percentage proportions
- Finding the original amount
- Percentage increase/ decreases
- Multipliers
- Basic percentages without a calculator

Section A

Question 1

Dave bought a car for £900, he paid a 25% deposit.
How much was the deposit?

Question 2

Jackie orders a new TV.
The TV costs £350
She pays a 20% deposit.

How much is the deposit?

(total 3 marks)

Question 3

Angela earns £35 240 a year.

She has to pay income tax.

She is allowed to earn £6475 before paying tax.
She pays 20% tax on the rest.

Her employer deducts the income tax each month.

Work out how much income tax Angela gets deducted each month.

£ ………………………………….

(Total 5 marks)

Question 4
There are 100 cents in a dollar, and since we know that percentage means "parts per hundred", write each of these amounts as a percentage of a dollar.

a) 50 cent   ....%

b) $0.25   ....%

c) 1 dollar   ....%

d) 3 dollars   ....%

e) $1.50   ....%

f) $1.35   ....%

(Total 6 marks)

Question 5
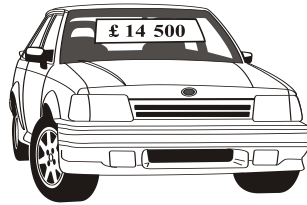
A computer costs £750. This price is reduced by 18%.

Calculate the reduced price of the computer.

£ ....

[3]

Question 6

The price of a new car is £14 600 plus 20% VAT. Calculate the total cost of the car.

£ .... [3]

Question 7

For every 40 students at Hightown School, 29 are girls. Work out the percentage of students who are girls.

.................%

(Total 2 marks)

Section B
Question 8

(a) Work out 35 % of 150.

....
(1)

(*b*) Work out 135% of 150.

....
(1)
(Total 2 marks)

Question 9

In my school, the ratio of male to female teachers is 3: 2

40% of the men are under the age of 40

10% of the women are under the age of 40

What percentage of all the teachers are under the age of 40?

You must show all your working.

(Total 4 marks)

Question 10.

Calculate the increase **as a decimal** in the following:

    (a) A CD was £10, now costs £12.

…………………………..(1)

    (b) A coat was £65, now costs £81.25.

…………………………..(1)

(Total 2 marks)

Question 11.

Calculate the percentage saving of the following:

    (a) A pair of jeans were £45, now cost £35.

    (b) A shirt was £27.50, now costs £22.75.

....
(Total 2 marks)

Question 12.

The table shows information about the cost of streaming programmes via TWO internet TV companies in 2014 and 2015.

Each has a standard charge, and then an extra charge for the films package.

	SKYPIC		GPconnect	
	Standard charge (per month)	Extra films package (per month)	Standard charge (per month)	Extra films package (per month)
2014	34	15	25	12
2015	35	16	30	13

(a) Work out the percentage increase in the standard charge from 2014 to 2015 for each company.
Which company has increased its standard charge by a higher percentage?
Show how you decided.

....
(1)

(b) Which company has increased its total charge of standard **plus** film package by a higher percentage?

....**(2)**
(Total 3 marks)

Question 13.

Mary works in an electrical goods shop, selling TVs

She is paid £265 per week plus 8% of the total value of the TVs she sells that week.

In one week she sold TVs with a total value of £1250.

Work out the total amount Mary was paid that week.

(Total 3 marks)

Question 14.

In a sale, the normal prices are reduced.

A coat is reduced from £258 to £221.88

What is the percentage decrease?

(Total 2 marks)

Question 15.

Craig is buying home insurance.

He finds two insurance companies and has to choose between them.

Insurance 1:   £345 per year with $\frac{1}{3}$ off

Insurance 2:   £315 per year with 10% off

Which insurance is the cheapest?

Show all your working.

(Total 2 marks)

Section C
Question 16.

A bank gives you 28 Euros when you exchange £20. How much will you get for exchanging £135?

€……………………
(Total 2 marks)

Question 17.

Barry uses blue and red to make purple, in the ratio 3:5. How many tins of red will he need to mix with the 9 tins of blue?

....
(Total 2 marks)

Question 18.

Louis, Steve and Ella shared some money in the ratio 2 : 3 : 5
Ella got £54.

How much money did Steve get?

£……………………
(Total 2 marks)

Question 19.

Shannon and Liam share some chocolate in the ratio 4:3

Liam gets 81 grams of chocolate. Work out how many grams Shannon receives.

………………….g
(Total 2 marks)

Question 20.

A shop sells freezers and cookers.
The ratio of the number of freezers sold to the number of cookers sold is 5 : 2
The shop sells 140 freezers in one week.

Work out the number of cookers sold that week.

....

(Total 2 marks)

Question 21.

Louise and Anil share some sweets in the ratio 3 : 8

Anil gets 32 sweets.
(a) How many sweets does Louise get?

....

(2)

Anil also has a tin of chocolates.

There are 80 chocolates in the tin.

45% of the chocolates have toffee in the middle.
(b) Work out the number of chocolates that have toffee in the middle.

....

(2)
(Total 4 marks)

Question 22.

Kiran is going to make some concrete mix.
He needs to mix cement, sand and gravel in the ratio 1 : 3 : 5 by weight.

Kiran wants to make 180 kg of concrete mix.

Kiran has:

18 kg of cement
85 kg of sand
90 kg of gravel

Does Kiran have enough cement, sand and gravel to make the concrete mix?

(Total 3 marks)

Question 23.

Jane made some almond biscuits which she sold at a fête.

She had:

    5 kg of flour
    3 kg of butter
    2.5 kg of icing sugar
    320 g of almonds

Here is the list of ingredients for making 24 almond biscuits.

Ingredients for 24 almond biscuits

    150 g flour
    100 g butter
    75 g icing sugar
    10 g almonds

Jane made as many almond biscuits as she could, using the ingredients she had.

Work out how many almond biscuits she made.

(Total 3 marks)

Question 24.

On a farm:

- the number of cows and the number of sheep are in the ratio 6 : 5
- the number of sheep and the number of pigs are in the ratio 2 : 1

The total number of cows, sheep and pigs on the farm is 189.

How many sheep are there on the farm?

....

(Total 3 marks)

Question 25.

Build-a-mix makes concrete.

1 cubic metre of concrete has a weight of 2400 kg.

15% of the concrete is water.

The rest of the ingredients of concrete are cement, sand and stone.
The weights of these ingredients are in the ratio 1 : 2 : 5

Work out the weight of cement, sand and stone in 1 cubic metre of concrete.

cement = ... kg

sand = ... kg

stone = ... kg

(Total 4 marks)

Question 26.

Rob is learning about the planets.

Rob makes a model of the Sun.
He also makes a model of the planet Jupiter.

Rob is going to hang the two models in the school hall.

Rob wants a distance of 16 m between the two models.
The real distance between the planet Jupiter and the Sun is 8×10^8 km.

Work out the scale Rob should use.
Give your answer in the form 1 : n

....

(Total 3 marks)