National 4

Added Value

Non Calculator

Preparation Booklet

Percentages:

Core skills

(a) 30% of 450   (b) 2% of 1200   (c)   15% of 60   (d) 65% of 40

In Context:

Q1: Last year a holiday was priced at £800. This year the same holiday has risen by 10%.

What is the new cost of the holiday?

Q2: A ship was sailing at 25km/hour. It increased its speed by 40%.

What was its new speed?

Q3: The temperature in the Sahara Desert was 40˚ at noon. By 4pm, it had dropped by 5% of this temperature.

What is the new temperature?

Q4: A tractor bought for £30 000 in 2002 has depreciated in value over the past few years. It is now worth 32% less than the original value.

What is the tractor worth today?

Q5: Zachar knows that the manufacturers of Raisin Flakes claim to have at least 20% raisins in every box of cereal. He discovers that a 550g packet of Raisin flakes has 100g of raisins in it. Has this box met with the manufacturers claim?

Fractions:

Core skills

a) $\frac{2}{5}$ of 35   b) $\frac{3}{7}$ of 21   c) $\frac{2}{9}$ of 81   d) $\frac{2}{3}$ of 12.6   e) $\frac{3}{10}$ of 120

(f) $\frac{3}{8}$ of 32   (g) $\frac{3}{4}$ of 240   (h) $\frac{3}{7}$ of 49

In Context:

Q1:   For an Art assignment Joe collected 80 shells from the beach.

$\frac{7}{8}$ of them were "razor shells".

How many razor shells did Joe collect?

Q2:   A cinema has sold $\frac{5}{6}$ of its seat for the evening performance.

To make the weekly target the manager needs to sell at least 400 tickets for this showing.

If the cinema holds 540 seats, has the manager met his target?

(You <u>must</u> show full working!)

Q3:   In class 4A $\frac{3}{5}$ of the pupils have blue eyes.

If the class contains 30 pupils, how many pupils **DO NOT** have blue eyes?

Q4: I earn £243 per week. I spend $\frac{2}{9}$ of it on food?

(a)   How much do I spend on food?

(b)   How much am I left with?

Decimals – Add and Subtract

Core skills

a) 2.5 + 6.25 – 3.8   b) 5.18 + 2.6 – 3.12   c) 8.6 – 3.15 + 2.4

In context:

Q1:   In a science experiment 4.5g of copper is mixed with 2.15g of sulphuric acid.

The reaction of these chemicals causes the overall mass to reduce by 3.85g.

What is the mass of the remaining chemical mix?

Q2:   Bill the Busker made £ 4.85 in the morning and   £ 12.50 in the afternoon.

If he spent £ 5 on a fish supper on the way home how much did he have left?

Q3:   Emma timed herself completing the three levels of cup stacking. The first two levels are stacking and the total time taken to stack is the addition of these two times. The third level is unstacking back to the start.

Her separate times for the 2 stacking levels were 4.5 seconds and 8.22 seconds.

Her third level time for unstacking was 5.8 seconds.

How much longer did it take Emma to stack than unstack?

Q4:   Mrs Lister is redecorating her flat.

She buys wallpaper costing £ 107.94 and paint costing £ 49.99.

From a budget of £ 200 calculate how much she has left.

Decimals – Multiplication:

a)   3.9 x 8   b) 0.8 x 8   c)   16.25 x 5   d) 4.125 x 4

In context:

Q1:   Lily buys 8 trays of plants which each cost £3.15.

How much does she spend in total?

Q2: a) Easy-car charges £18.50 per day rental. If Julie wishes to hire a car for 4 days, how much will it cost her?

If Julie wishes to add Sat Nav to her rental she must pay £5.75 per day extra.

b) How much in TOTAL does Julie now have to pay?

Q3:   Ernie is filling up his new aquarium using a jug which holds 1.5 litres when full.

He finds that he needs 8 jugs to fill the aquarium to the correct level for his fish.

How much water did he put in?

Q4:   Tariq wishes to buy his 6 friends a souvenir from his holidays.
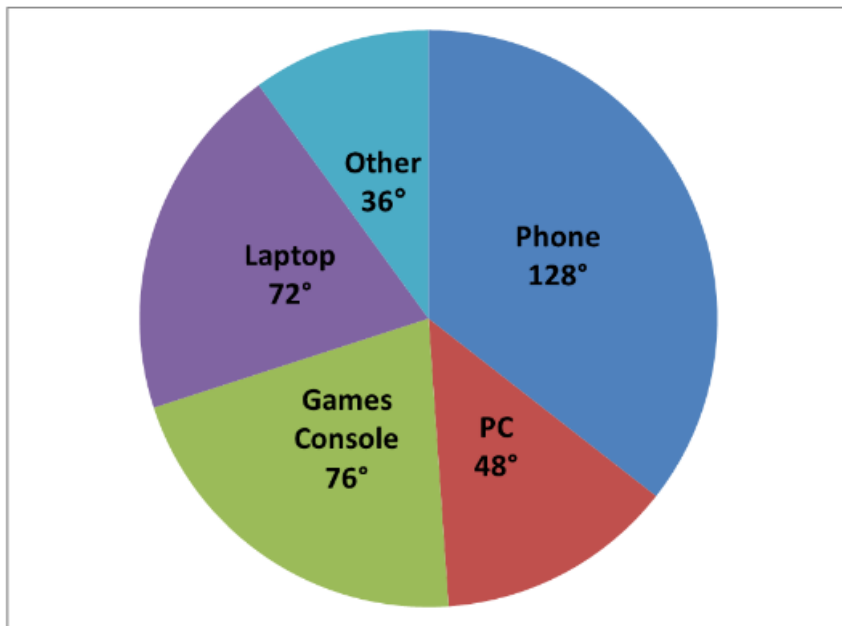
He sees T-shirts priced at €3.85.

If Tariq wishes to spend no more than €25 can he afford to get the T-shirts?

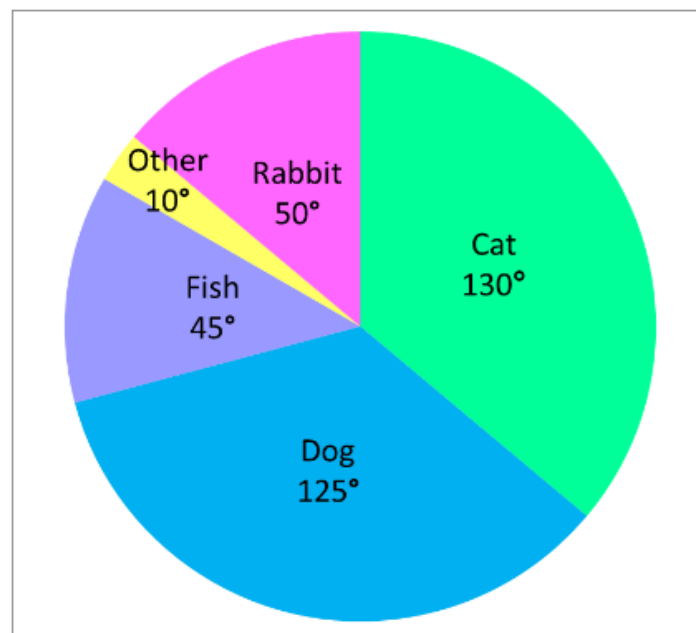(You must show your working and state your conclusion)

Pie chart

Q.1:

The pie chart shows results of a survey of **90 people**.
How many people chose **Laptop**?

Other
36°

Laptop
72°

Phone
128°

Games
Console
76°

PC
48°

Q.2:

The pie chart shows results of a survey of **72 people**.
How many people chose **Cat**?

Other
10°

Rabbit
50°

Fish
45°

Cat
130°

Dog
125°

Q.3: The pie chart shows results of a survey of **30 people**. How many people chose **Car**?