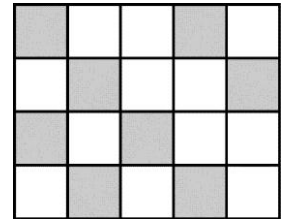


MATHEMATICS : FOUNDATION

YR 10 SUMMER HW

- 1 a What fraction of this rectangle is shaded?
 b What percentage of the rectangle is not shaded?
 c Draw a similar rectangle, 5 squares long and 4 squares wide. Shade 65% of the new rectangle.



- 2 On 1 June the number of visitors to a theme park was recorded as 19476.
 a Write the number 19476 in words.
 b What is the value of the digit 4 in this number?
 c Write the number 19476 to the nearest thousand.
 d The next day there were two-and-a-half thousand more visitors than on 1 June. How many visitors went to the theme park on 2 June?
 e Write the number of visitors on 2 June to the nearest 10.

- 3 From the numbers in the rectangle, write down all of the:
 a square numbers
 b cube numbers
 c prime numbers
 d factors of 56
 e multiples of 6.

25	17	28	7	8
	36	27	19	42
14	30	64	1	3

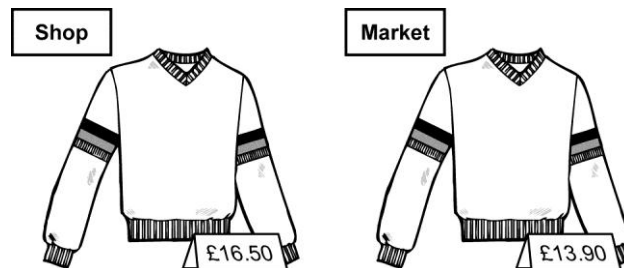
- 4 List these fractions in order of size, starting with the smallest.

$$\frac{2}{3} \quad \frac{4}{9} \quad \frac{5}{6} \quad \frac{1}{2}$$

Show your method.

- 5 A factory worker packed 67 boxes of drawing pins in an hour.
Each box contained 48 drawing pins.
- Explain how you would estimate the number of drawing pins that she packed.
 - Would you expect the actual number to be more or less than your estimate?
Explain your answer.
 - Calculate the exact number of drawing pins that she packed into the boxes.
Show your method.

- 6 Jack saw two identical sweatshirts for sale, one in a shop and one in a market.



The sweatshirt in the shop was on sale at $\frac{2}{3}$ of the marked price.

The sweatshirt in the market was on sale with 20% off the marked price.

Work out which sweatshirt would cost less to buy.

Show all your working.

- 7 Work these out:

a 5^3

b $\sqrt[3]{8000}$

c $\sqrt{4^3 + 6^2}$

d $\sqrt[3]{-8}$

- 8 Copy and complete the following table showing equivalent fractions, decimals and percentages.

Fraction	Decimal	Percentage
	0.3	
		65%
$\frac{5}{8}$		
		$33\frac{1}{3}\%$
	0.84	
$\frac{4}{25}$		

- 9 a Simplify these ratios: i 15:25 ii $\frac{1}{2} : \frac{3}{4}$ iii 2.4:1.6 iv 30 cm:1.5 m

- b The audience in a theatre is made up of the following ratio:
men : women : children = 2 : 4 : 3

There are 207 people in the audience. Calculate the number of men.

- c Copy and complete these equivalent ratios:
i $3:7 = 21:\dots\dots$ ii $18:30 = \dots\dots:5$ iii $2\frac{1}{2}:5\frac{3}{4} = 10:\dots\dots$

- 10 a Rhian measures the height of one of her tomato plants as 20 cm. The next week it is 15% taller. What is its new height?

- b Another tomato plant grows from 240 cm to 312 cm. Calculate the percentage change in height.

11 Look at these number cards



Copy and complete the blank cards below and work out the answers to parts **a** and **b**.

a Choose the two cards that give the lowest possible answer.

$$\boxed{} \times \boxed{} = \text{-----}$$

b Choose two of the cards that give the answer 100.

$$\boxed{} \div \boxed{} = 100$$

12 Use the rules of indices to simplify the following.

Give your answers in index form.

a $4^3 \times 4^5$

b $3^8 \div 3^2$

c $(t^4)^3$

d $\frac{m^9}{m^2 \times m^4}$

13 Sharon is making fairy cakes. She uses 150 g flour to make 24 cakes.

The following week she wants to make 60 fairy cakes.

How much flour will she need?