QT Quick Test 4C

1. Work out $2\frac{1}{2} \times 3\frac{1}{4}$

$$\frac{5}{2} \times \frac{13}{4} = \frac{65}{8} = 8\frac{1}{8}$$

2. Aqdas drives 350km at an average speed of 75km/h. What is the time taken for Aqdas's journey? Give your answer in hours and minutes.

$$Time = \frac{dist}{speed} = \frac{350}{75} = 4\frac{50}{75} = 4\frac{2}{3}$$

$$\begin{array}{r} 75 \\ \times\ 4 \\ \hline 300 \end{array}$$

$$= 4\ hours\ 40\ mins.$$

3. Leo bought 4kg of oranges from the supermarket for £2.40. What is the cost of 5kg of oranges?

$$4\overline{)240}\ ^{60} \qquad \begin{array}{r} 60 \\ \times\ 5 \\ \hline 300 \end{array} = £3$$

4. Calculate 79% of £320

$$0.79 \qquad \begin{array}{r} 320 \\ \times\ 79 \\ \hline 2880 \\ 22400 \\ \hline 25280 \end{array} \qquad 252.8$$
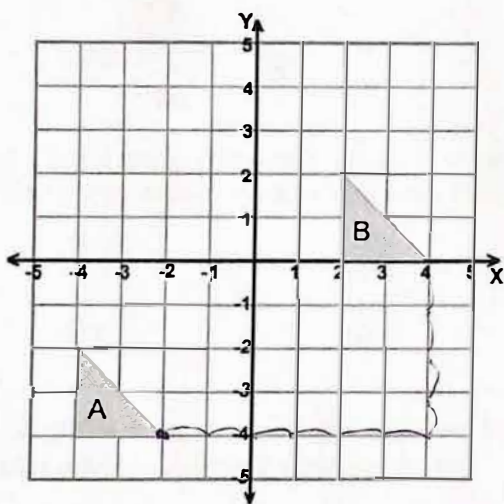
5. A model of a small block of flats has a vertical height of 15cm. The scale of the model is 1:150. Work out the height of the real block of flats. Give your answer in metres.

150
15
750
1500
2250

22.5m.

6. Describe fully the single transformation that maps triangle A to triangle B.

Translation vector

$\begin{pmatrix} 6 \\ 4 \end{pmatrix}$

7. Write the ratio 7.5 : 2.5 in the form n : 1

7.5 : 2.5
75 : 25
3 : 1

3 : 1

8. A circle has a radius of 17cm. Work out the area of the circle. Give your answer correct to 1 decimal place.

Area = πr^2
= $\pi (17)^2$
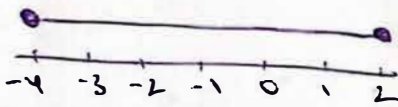= 289π

907.9202
907.9cm²

9. n is an integer such that $-4 \leq n \leq 2$. Write down all the possible values of n.

$-4, -3, -2, -1, 0, 1, 2$

10. Sameer and Harine share some money in the ratio 5 : 3. Sameer gets £60 more than Harine. Work out how much money Harine gets.
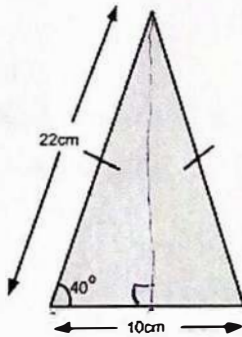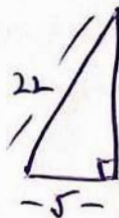
Sameer €150
Harine € 90

11. There are 65 counters in a bag. 11 of the counters are yellow, and the rest are green. One of the counters is taken at random. Find the probability that this counter is green.
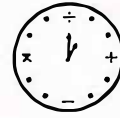
$\dfrac{54}{65}$

12. ABC is an isosceles triangle. Calculate the perpendicular height of triangle ABC. Give your answer correct to 3 significant figures.
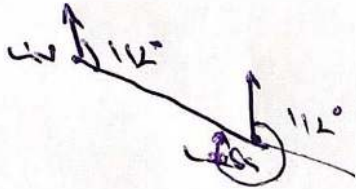
SoL Cal Toa

Pythagoras

$a^2 = b^2 + c^2$

$22^2 = 5^2 + c^2$

$22^2 - 5^2 = c^2$

$\sqrt{459} = c^2$

$21.4242858 = c$

$21.4 cm$

13. The bearing of Leeds from Liverpool is 112° . Find the bearing of Liverpool from Leeds.

Liv from Leeds

$$112 +$$
$$180$$
$$292°$$

14. The frequency table shows the time taken for students to complete their maths homework.
(a) Work out an estimate for the mean time for the students to complete their comework.
(b) Explain why your answer to part (a) is an estimate

Time taken (minutes)	Frequency	$f \times m$
$0 < h \le 20$	6	$6 \times 10 = 60$
$20 < h \le 30$	9	$9 \times 25 = 225$
$30 < h \le 40$	12	$12 \times 35 = 420$
$40 < h \le 60$	3	$3 \times 50 = 150$

30   855

(a) Mean = $\dfrac{\text{Total}}{\text{Number}}$

$$= \frac{855}{30} = 28.5 \text{ mins}$$

(b) We don't know exact time, all the data is grouped. We've used midpoint of each class width.