QT Quick Test 4F - Which Answer?

Calculator

The answers to all the questions are below. To make it a little more challenging, no units are given, and the answers are in the wrong order :-)

$\frac{9}{55}$	104	576	200
44	2 & 5	450	31
28 : 42	$\frac{32}{55}$	2.5	480
102	0.6	320	0.375
$2\frac{11}{20}$	10.39	$\frac{14}{3}$	7500

1. The table gives information about the total number of orders for a new jacket, each month, received by a clothing store.

Month	Jan	Feb	March	April	May	June
Orders	29	32	54	45	88	27

275

An order is chosen at random. Workout the probability that the order was received in:

(a) April $\dfrac{45}{275} = \dfrac{9}{55}$

(b) April or May or June $\dfrac{45 + 88 + 27}{275} = \dfrac{160}{275} = \dfrac{32}{55}$

Give your answer to (a) and (b) in its simplest form.

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2. Convert 450 000 cm^3 into litres

$1000 cm^3 = 1$ litre

$\dfrac{450,000}{1000} = 450$ litres

3. Divide £70 in the ratio 2 : 3

×14 $\left(2 : 3 \right)$×14 $\begin{array}{c} £5 \\ £70 \end{array}$ ×14

28 : 42

Calculator

4. A 200g box of Super Duper chocolates costs £4.50. A 175g box of Super Duper chocolates costs £4.20. Which box is better value for money?

200g box $\frac{450}{200} = 2.25p$ per gram

175g box $\frac{420}{175} = 2.4p$ per gram

200g box.

5. An electrical cable is wrapped around a plastic circular drum 200 times. The drum has a radius of 3.5cm. Work out the length of the electrical cable. Give your answer in metres, correct to 3 significant figures.

3.5

Circumference = πD
= 7π

200 × 7π
4398.229 cm
= 43.98 m = 44.0 m

6. (a) Find the volume of the triangular prism

10cm

10cm

8cm vertical height

12cm

12cm

(b) Find the surface area of the triangle prism
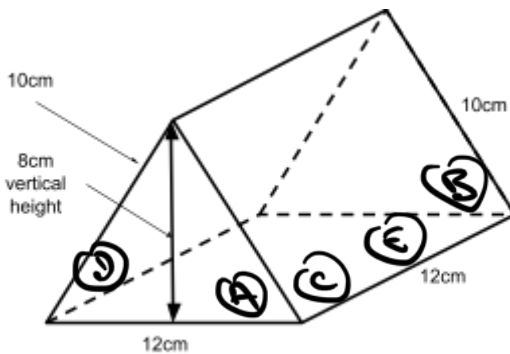
Volume = Area × Depth
$= \frac{1}{2}(b \times h) \times d$
$= \frac{1}{2}(12 \times 8) \times 12$
= 576 cm³

Surface Area
Ⓐ $= \frac{1}{2}(b \times h)$ = 48
Ⓑ = 48
Ⓒ 12 × 10 = 120
Ⓓ = 120
Ⓔ 12 × 12 = 144
480 cm²

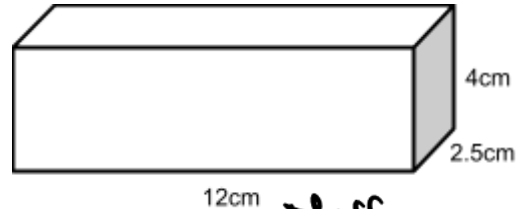# QT Quick Test 4F - Which Answer?

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7. A block of iron exerts a force of 800N on the floor. The base of the block of iron is 2.5m². Work out the pressure exerted on the floor. Give your answer in N/m².
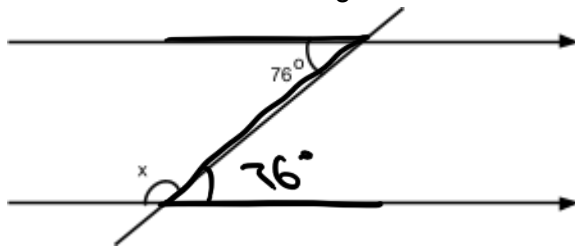
↓ 800N

$$Pressure = \frac{Force}{Area}$$

$$= \frac{800}{2.5} = 320$$

$$= 320 \, N/m^2$$

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8. A solid cuboid is made of wood. The wood has a density of 0.85g/cm³. Work out the mass of the cuboid.

4cm

2.5cm

12cm

$$Density = \frac{Mass}{Volume}$$

$$0.85 = \frac{Mass}{12 \times 4 \times 2.5} \quad (120)$$

$$102g = Mass$$

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9. Work out the size of angle x.

76°

76°

x

$$x = 180 - 76$$

$$= 104°$$

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10. The distance from Leeds to Whitby is 75 miles. Simon took 2 hours and 25 minutes to complete the journey. Calculate Simon's average speed to the nearest whole number.

$$Speed = \frac{Dist}{Time}$$

$$= \frac{75}{2\frac{25}{60}} = 31.0344$$

$$= 31 \, mph.$$

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11. Write $\frac{3}{8}$ as a decimal

$$\frac{3}{8} = 0.375$$

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12. Work out $\sqrt{5.3} + \tan 42^o$
Give your answer correct to 1 decimal place.

2.49006

2.5 (1dp)

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13. The number 45 can be written as $3^a \times b$, where a and b are prime numbers. Find the value of a and b.

$$3^2 \times 5$$
$$\downarrow \qquad \downarrow$$
$$9 \times 5 = 45$$
$$a = 2 \qquad b = 5$$

14. Work out $3\frac{4}{5} - 1\frac{1}{4}$

$$3\frac{16}{20} - 1\frac{5}{20}$$
$$2\frac{11}{20}$$

15. Work out an estimate for the value of

$$\frac{322 \times 4.87}{0.181} = \frac{300 \times 5}{0.2}$$
$$= \frac{1500 \times 10}{0.2 \times 10}$$
$$= \frac{15000}{2}$$
$$= 7500$$

16. Calculate the length of side x in the right angled triangle shown.

6cm, 12cm, a, b, x
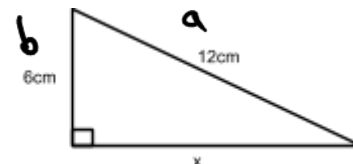
$$a^2 = b^2 + c^2$$
$$12^2 = 6^2 + c^2$$
$$12^2 - 6^2 = c^2$$
$$108 = c^2$$
$$10.39 = c \qquad 10.39 \, cm$$

17. Convert $60mm^2$ into cm^2

60mm, 60mm², 0.1, 6

$$6 \times 0.1 = 0.6$$
$$= 0.6 cm^2$$

18. Solve $\frac{3x + 10}{8} = 8$

×3

$$3x + 10 = 24$$
$$-10 \qquad 3x = 14 \qquad -10$$
$$\div 3 \qquad x = \frac{14}{3} = 4\frac{2}{3} = 4.6 \qquad \div 3$$