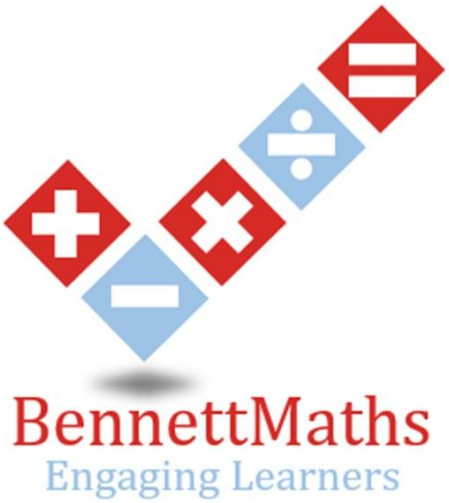


Name: _____

BennettMaths AQA 1H – Part 3

Do not write outside the box

20 K, L and M are weights.

Both of the scales balance exactly.

How many M weights are needed to balance **one** L weight?

[3 marks]

Answer _____

Do not write outside the box

21 Express $x^2 - 8x + 9$ in the form $(x - a)^2 - b$ where a and b are integers.

[2 marks]

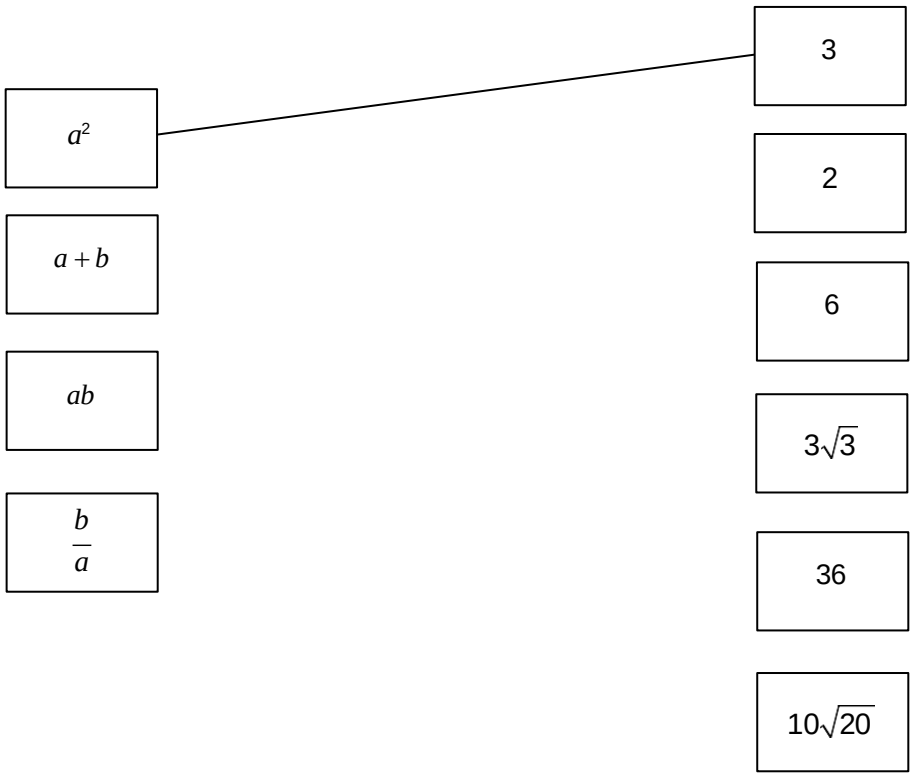
Answer _____

22 $a = \sqrt{3}$ and $b = \sqrt{12}$

Match each expression to its value.

One has been done for you.

[3 marks]



Turn over for the next question

8

Do not write outside the box

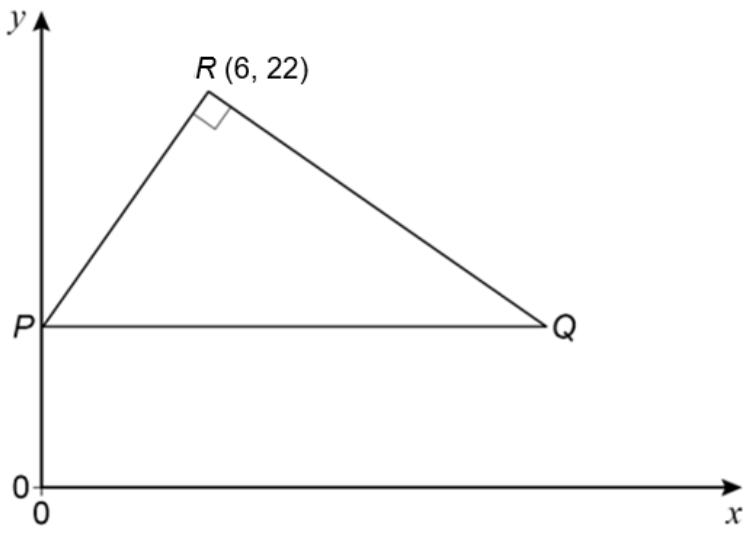
23 Write $0.\dot{2}\dot{4}$ as a fraction in its simplest form.

[3 marks]

Answer _____

Do not write outside the box

24 Points P, Q and R (6, 22) form a triangle.



Not drawn accurately

PQ is a horizontal line, with P on the y-axis.

Angle PRQ is a right angle.

The gradient of PR is 3

Work out the coordinates of Q.

[5 marks]

Answer (,)

8

Do not write outside the box

25 Show that $\frac{5\sin 60° - \cos 30°}{2\tan 60°}$ can be written as $\tan x$, where x is an acute angle.

[4 marks]

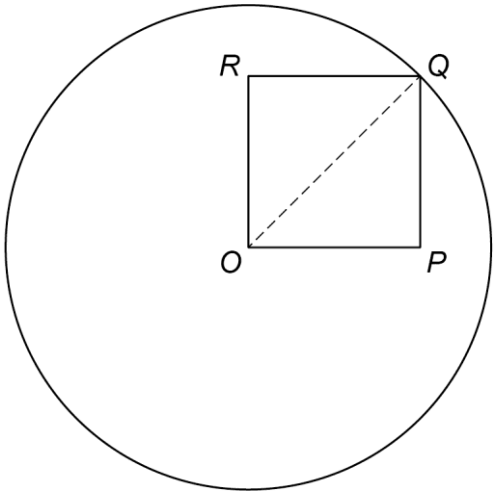
Do not write outside the box

26 A circle, centre O, has an area of 36π cm

Q is a point on the circle.

$OPQR$ is a **square**.

Not drawn accurately



area of the square : area of the circle = $\frac{1}{a} : \pi$ where a is an integer.

Work out the value of a.

You **must** show your working.

[4 marks]

$a =$ _____

8

Do not write outside the box

27 Liquid C is made by mixing liquid A and liquid B.

	Mass (g)	**Density (g/cm^3)**	**Volume (cm^3)**
Liquid A	200	a	$\frac{200}{a}$
Liquid B	300	b	$\frac{300}{b}$

Show that the density of liquid C, in g/cm^3, is $\frac{5ab}{3a+2b}$

[3 marks]

END OF QUESTIONS

3