

OCR GCSE Mathematics Calculator 2024 Higher Paper 1 Revision Worksheet

5. The same dog food is sold in three different sized packs. The diagram shows the price of each pack.
- 700 g for £7.70
 - 3 kg for £32.40
 - 5 kg for £53.90

Which pack is the best value for money? Show how you decide.

- 6 A regular polygon has n sides. The interior angle of the polygon is 15 times its exterior angle.
- Find the value of n .

$n =$

- 7 Write the following in order of size, smallest first.
- Show how you decide.

$0.2 \qquad 2^{-2} \qquad 2 \times 10^{-2}$

8. The price of a television is increased by 35%. In a sale, the new price of the television is decreased by $r\%$. The overall percentage increase in the price of the television is 16.1%.
- Find the value of r . You must show your working.**

9. Sasha and Taylor each have a stamp collection. They organise their stamp collections according to where the stamps come from: United Kingdom (UK), European Union (EU), Other. The table shows the number of stamps in each collection and the ratio **UK:EU: Other**.

	Number of stamps	Ratio UK:EU:Other
Sasha's	1638	9 : 3 : 2
Taylor's	660	8 : 1 : 2

When they put the two stamp collections together, Sasha and Taylor claim that at least $\frac{2}{3}$ of all the stamps come from the UK.

Are they correct? Show how you decide.

They are because

.....

.....

10. Here is a question and an incorrect solution.

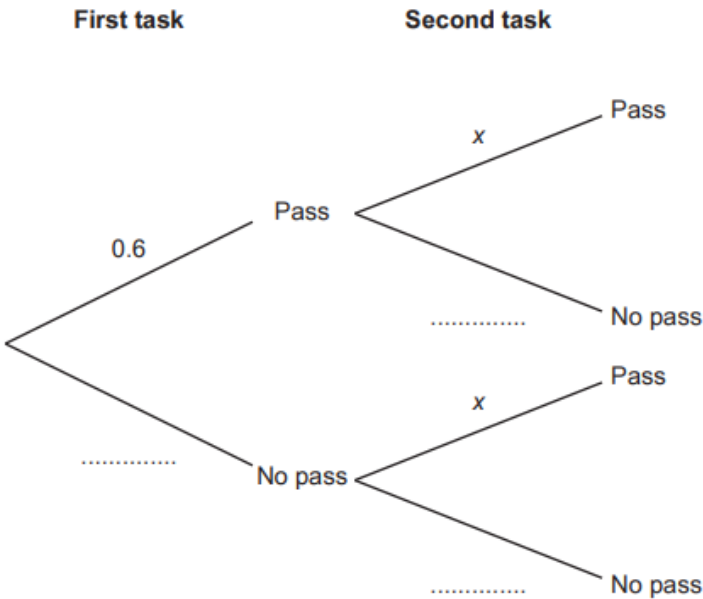
Question:
You are given
 $y \propto x$ and $y = 9$ when $x = 2$.

Find a formula linking x and y .

Solution:
 $y \propto x$ so $y = x + c$
Substituting $y = 9$ and $x = 2$ gives
 $9 = 2 + c$
 $c = 7$
So, $y = x + 7$

Describe the error made and write out a correct solution.

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- A student attempts two tasks.
The result of each task is either "Pass" or "No pass".
- The probability of the student passing the first task is 0.6.
The probability of the student passing the second task is x .
- (a) Complete the tree diagram.



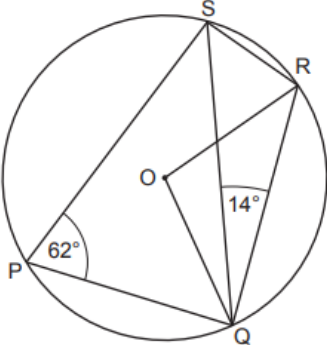
- (b) Write down the mathematical assumption that has been made about the two tasks.
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- (c) The probability of the student passing just one of these two tasks is 0.528.

Work out the value of x .

- (a) P, Q, R and S are points on the circumference of a circle, centre O.
Angle SQR = 14° and angle SPQ = 62° .

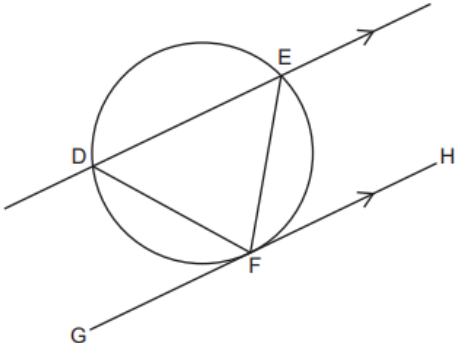
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Not to scale

Find the size of angle ROQ.

- (b) D, E and F are points on the circumference of a circle.



Not to scale

Line GH is a tangent to the circle at F.
Line DE is parallel to line GH.

Complete these statements to prove that triangle DEF is isosceles.
Give reasons for your statements.
You may not need all of the lines.

Angle = Angle because
.....

Angle = Angle because
.....

Angle = Angle because
.....

Angle = Angle because
.....

Angle = Angle because
.....

Triangle DEF is isosceles because