

AQA GCSE Mathematic Calculator 2022 Higher Paper 3 Revision Worksheet

Question 3

Expand $6x^2(x^3 + 2)$

Circle your answer.

a) $6x^5 + 2$

b) $6x^6 + 2$

c) $6x^5 + 12x^2$

d) $6x^6 + 12x^2$

Question 4

$30 < x < 300$

x is 200% of y

Circle the correct inequality.

[1 m

$10 < y < 100$

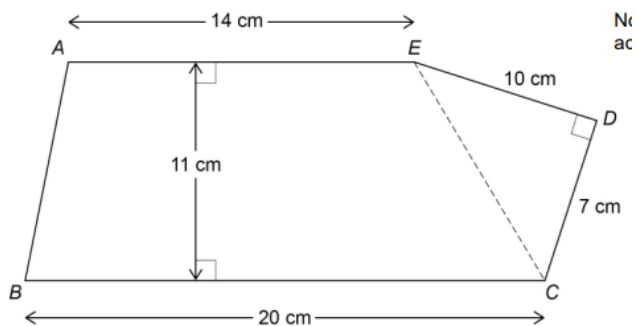
$15 < y < 150$

$60 < y < 600$

$90 < y < 900$

Question 5

ABCDE is a pentagon.



Work out the area of the pentagon.

Question 6

Joe, Kim and Lisa each have an amount of money.

Joe has £72

Joe's amount : Kim's amount = 6: 5

Lisa's amount is $1\frac{1}{2}$ times Joe's amount.

Show that, in total, they have less than £250.

Question 7

(a)

Here is the rule for a sequence:

- The 1st term is 33
- The 2nd term is x
- The 4th term is 73

After the first two terms, each term is the sum of the previous two terms.

Work out the value of x .

$x =$ _____

(b)

An expression for the n th term of a different sequence is $n - n^2$

Ruth says,

"All the terms will be negative because n^2 is always greater than n ."

Is she correct?

Tick a box.

- Yes
- No

Give a reason for your answer.

Question 8

Here is some information about the members of clubs A and B:

Club	Number of members	Mean height of members
A	24	1.8 m
B	20	1.92 m

Work out $\frac{\text{total height of the members of club A}}{\text{total height of the members of club B}}$.

Give your answer as a decimal.

Answer: _____

Question 9

P and Q are points.

The x -coordinate of Q is 4 more than the x -coordinate of P .

The y -coordinate of Q is 5 less than the y -coordinate of P .

Work out the gradient of the straight line through P and Q .

Answer: _____

Question 10

Here are the results after 250 spins of a coin:

- Heads: 128
- Tails: 122

The coin is spun an extra 50 times.

After all 300 spins, the relative frequency of Heads is 0.49.

For the **extra 50 spins**, work out number of Heads : number of Tails.

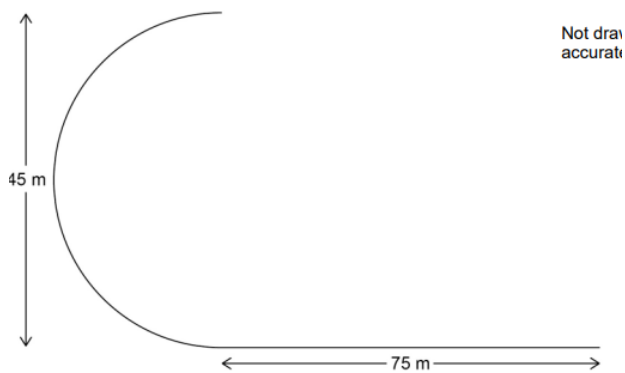
Answer: _____ : _____

Question 11

Part of a running track is the arc of a semicircle joined to a straight line.

- The semicircle has diameter 45 metres.
- The straight line has length 75 metres.

The straight line has length 75 metres.



Abby runs once along this part of the track in 18 seconds.

Work out her average speed.

Give your answer to **2 significant figures**.

Answer: _____ m/s

Question 12

Triangles ABC and DEF are shown on a grid.

Describe a single transformation that shows the triangles are congruent.

[Image: Two congruent triangles on a coordinate grid, one at $(-5, -4)$, $(-2, -2)$, $(-3, -6)$, and the other at $(2, 3)$, $(5, 5)$, $(4, 1)$]