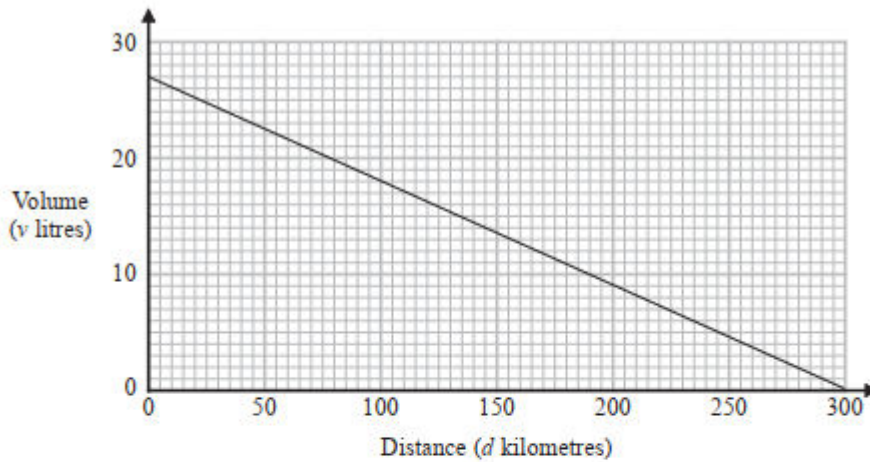


GRADIENT OF A LINE

Pearson Edexcel – Thursday 4 June 2020 - Paper 2 (Calculator) Higher Tier

1.

12 The graph gives information about the volume, v litres, of petrol in the tank of Jim's car after it has travelled a distance of d kilometres.



(a) Find the gradient of the graph.

.....
(2)

(b) Interpret what the gradient of the graph represents.

.....
.....
.....
(1)

.....
(Total for Question 12 is 3 marks)

Pearson Edexcel - Thursday 8 November 2018 - Paper 2 (Calculator) Higher Tier

2.

- 6 A is the point with coordinates $(5, 9)$
 B is the point with coordinates $(d, 15)$

The gradient of the line AB is 3

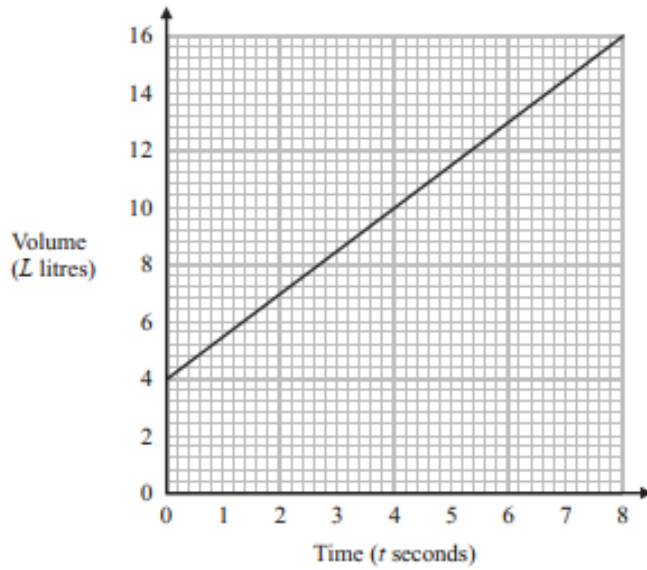
Work out the value of d .

(Total for Question 6 is 3 marks)

Pearson Edexcel - Tuesday 12 June 2018 - Paper 3 (Calculator) Higher Tier

3.

12 The graph shows the volume of liquid (L litres) in a container at time t seconds.



(a) Find the gradient of the graph.

.....
(2)

(b) Explain what this gradient represents.

.....
.....
(1)

The graph intersects the volume axis at $L = 4$

(c) Explain what this intercept represents.

.....
.....
(1)

.....
(Total for Question 12 is 4 marks)

- 6 The equation of the line L_1 is $y = 3x - 2$
The equation of the line L_2 is $3y - 9x + 5 = 0$

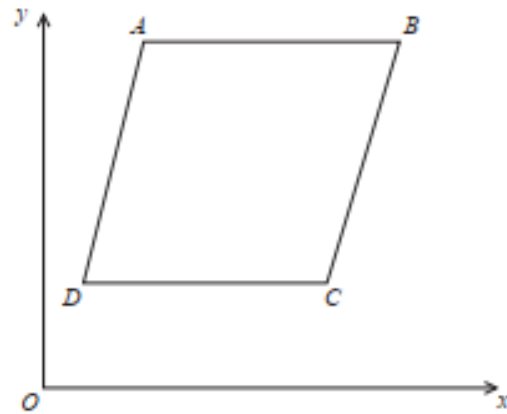
Show that these two lines are parallel.

(Total for Question 6 is 2 marks)

Pearson Edexcel - Thursday 25 May 2017 - Paper 1 (Non-Calculator) Higher Tier

5.

18



$ABCD$ is a rhombus.

The coordinates of A are $(5, 11)$

The equation of the diagonal DB is $y = \frac{1}{2}x + 6$

Find an equation of the diagonal AC .

(Total for Question 18 is 4 marks)

Pearson Edexcel - Thursday 8 June 2017 - Paper 2 (Calculator) Higher Tier

6.

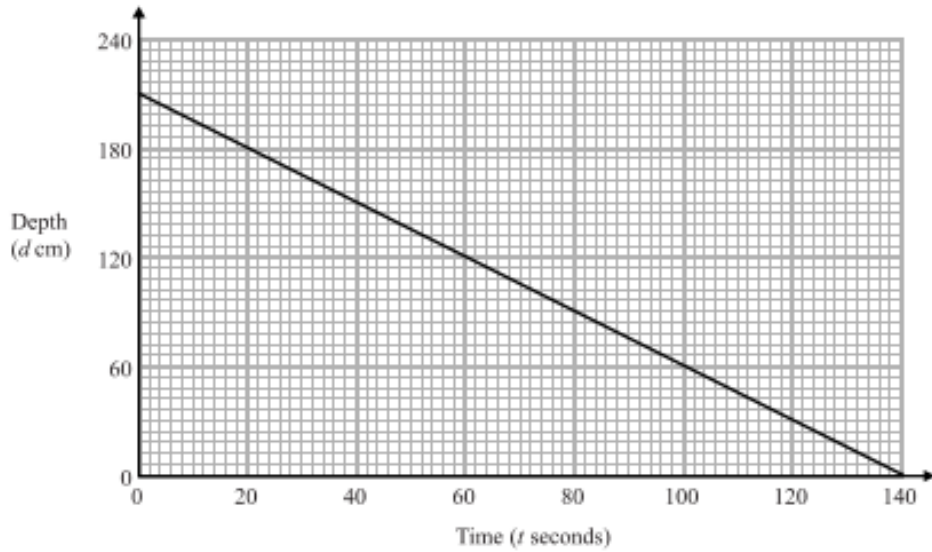
23 L is the circle with equation $x^2 + y^2 = 4$

$P\left(\frac{3}{2}, \frac{\sqrt{7}}{2}\right)$ is a point on L.

Find an equation of the tangent to L at the point P.

(Total for Question 23 is 3 marks)

10 The graph shows the depth, d cm, of water in a tank after t seconds.



(a) Find the gradient of this graph.

.....
(2)

(b) Explain what this gradient represents.

.....
.....
(1)

.....
(Total for Question 10 is 3 marks)

7 Here are the equations of four straight lines.

Line A $y = 2x + 4$

Line B $2y = x + 4$

Line C $2x + 2y = 4$

Line D $2x - y = 4$

Two of these lines are parallel.

Write down the two parallel lines?

Line and line

(Total for Question 7 is 1 mark)

Pearson Edexcel - Wednesday 5 November 2014 - Paper 1 (Non-Calculator) Higher Tier

9.

*24 A is the point with coordinates $(1, 3)$

B is the point with coordinates $(4, -1)$

The straight line L goes through both A and B .

Is the line with equation $2y = 3x - 4$ perpendicular to line L ?

You must show how you got your answer.

(Total for Question 24 is 4 marks)

Pearson Edexcel - Friday 8 November 2013 - Paper 2 (Calculator) Higher Tier

10.

*25 A and B are straight lines.

Line A has equation $2y = 3x + 8$

Line B goes through the points $(-1, 2)$ and $(2, 8)$

Do lines A and B intersect?

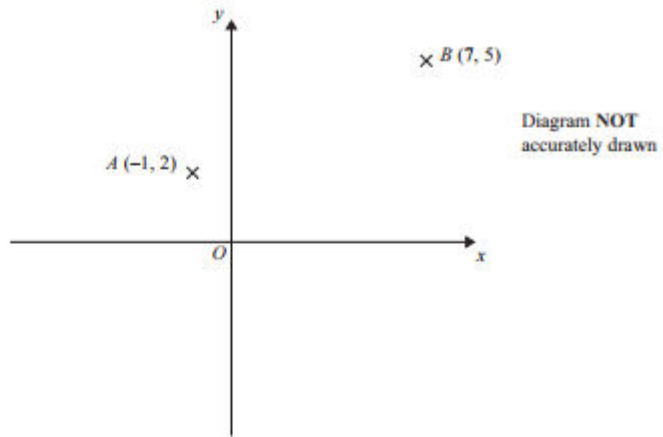
You must show all your working.

(Total for Question 25 is 3 marks)

Pearson Edexcel - Friday 14 June 2013 - Paper 2 (Calculator) Higher Tier

11.

13



A is the point $(-1, 2)$
 B is the point $(7, 5)$

(a) Find the coordinates of the midpoint of AB .

(.....,)
(2)

P is the point $(-4, 4)$
 Q is the point $(1, -5)$

(b) Find the gradient of PQ .

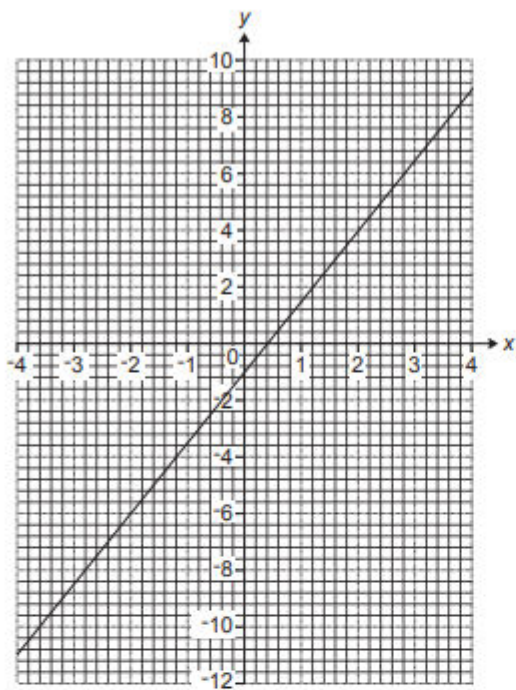
.....
(2)

(Total for Question 13 is 4 marks)

OCR GCSE – Tuesday 3 November 2020 – Paper 4 (Calculator) Higher Tier

12.

7 This graph shows part of a straight line.



(a) Show that the gradient of the line is 2.5.

[1]

(b) Write down the equation of the line.

(b) [2]

OCR GSCE – Sample Papers – Paper 5 (Non - Calculator) Higher Tier

13.

14 Show that line $3y = 4x - 14$ is perpendicular to line $4y = -3x + 48$.

[4]

OCR GSCE – Sample Papers – Paper 6 (Calculator) Higher Tier

14.

14 A straight line goes through the points (p, q) and (r, s) , where

- $p + 2 = r$
- $q + 4 = s$.

Find the gradient of the line.

..... [3]

AQA GCSE – Thursday 4 June 2020 – Paper 2 (Calculator) Higher Tier

15.

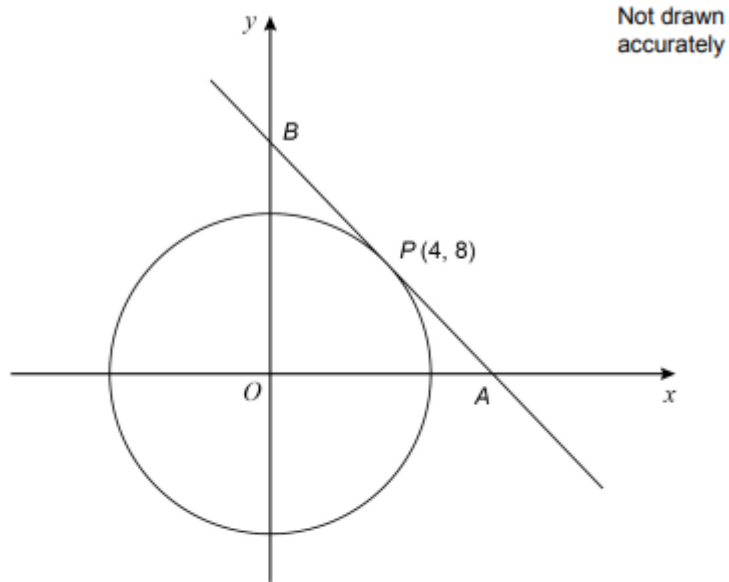
12 Work out the gradient of the straight line through $(-2, 3)$ and $(1, 9)$

[2 marks]

Answer _____

17.

- 25 $P(4, 8)$ is a point on a circle, centre O .
The tangent at P intersects the axes at points A and B .



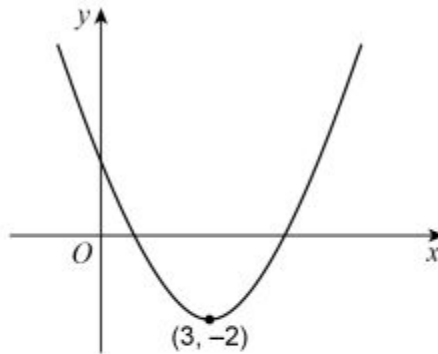
- 25 (a) Show that the gradient of the tangent is $-\frac{1}{2}$

[2 marks]

18.

- 28** Here is a sketch of a quadratic curve.
The turning point is $(3, -2)$

Not drawn
accurately



Circle the correct statement about the gradient of the curve for $x < 3$

[1 mark]

gradient is positive

gradient is negative

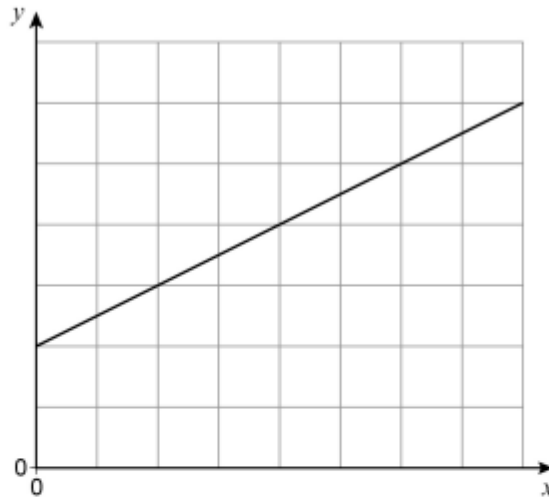
gradient is zero

gradient could be any value

AQA GCSE – Thursday 7 June 2018 – Paper 2 (Calculator) Higher Tier

19.

12 A straight line is drawn on the centimetre grid.



Fay assumes that the scale is 1 cm represents 1 unit.

12 (a) Use her assumption to work out the gradient of the line.

[1 mark]

Answer _____

12 (b) In fact, the scale is 1 cm represents 2 units.

Which statement is correct?

Tick **one** box.

[1 mark]

The answer to part (a) is too big

The answer to part (a) stays the same

The answer to part (a) is too small

AQA GCSE – Tuesday 12 June 2018 – Paper 3 (Calculator) Higher Tier

20.

- 8 (a) Show that the lines $y = 3x + 7$ and $2y - 6x = 8$ are parallel.
Do **not** use a graphical method.

[3 marks]

- 8 (b) Is the point $(-5, -6)$ above, below or on the line $y = 3x + 7$?
Tick **one** box.

Above

Below

On the line

You **must** show your working.
Do **not** use a graphical method.

[2 marks]

AQA GCSE – Wednesday 25 May 2017 – Paper 1 (Non - Calculator) Higher Tier

21.

17 A is the point $(2, -5)$

B is the point $(4, -9)$

17 (a) Show that the gradient of the straight line passing through A and B is -2

[2 marks]

17 (b) C is the point $(-301, 601)$

Does C lie on the straight line passing through A and B ?

You **must** show your working.

[2 marks]

Answer _____