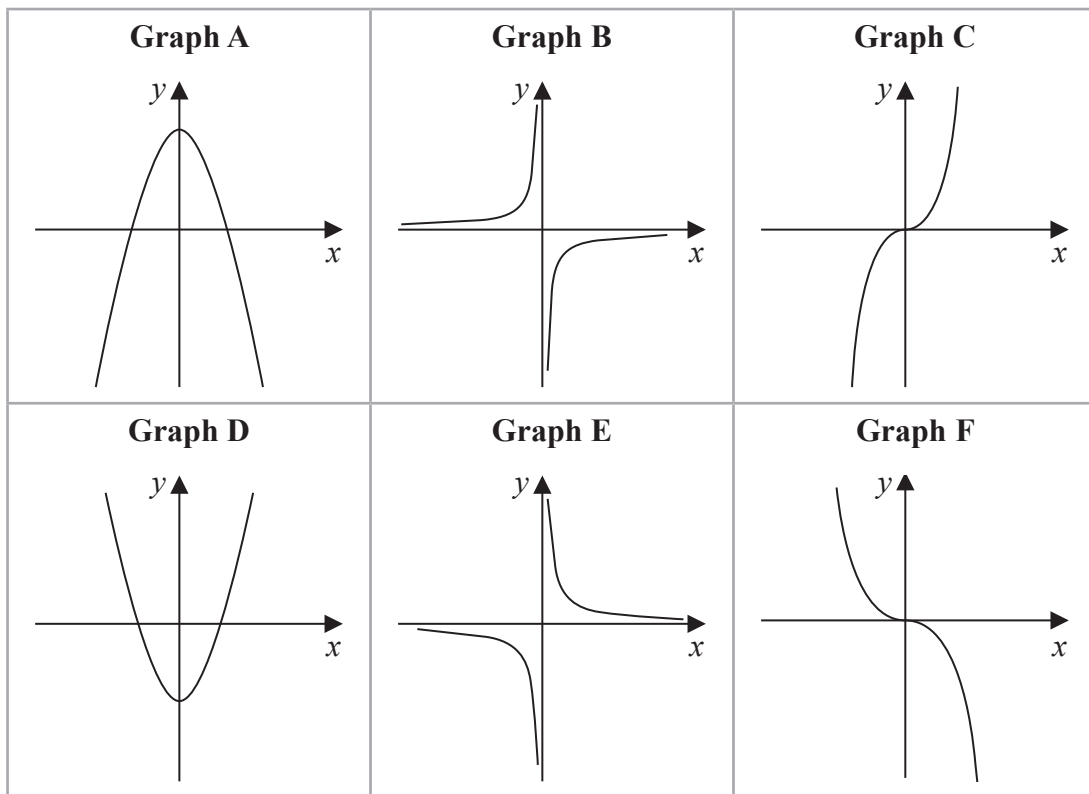


11 Here are six graphs.



Complete the table below with the letter of the graph that could represent each given equation.

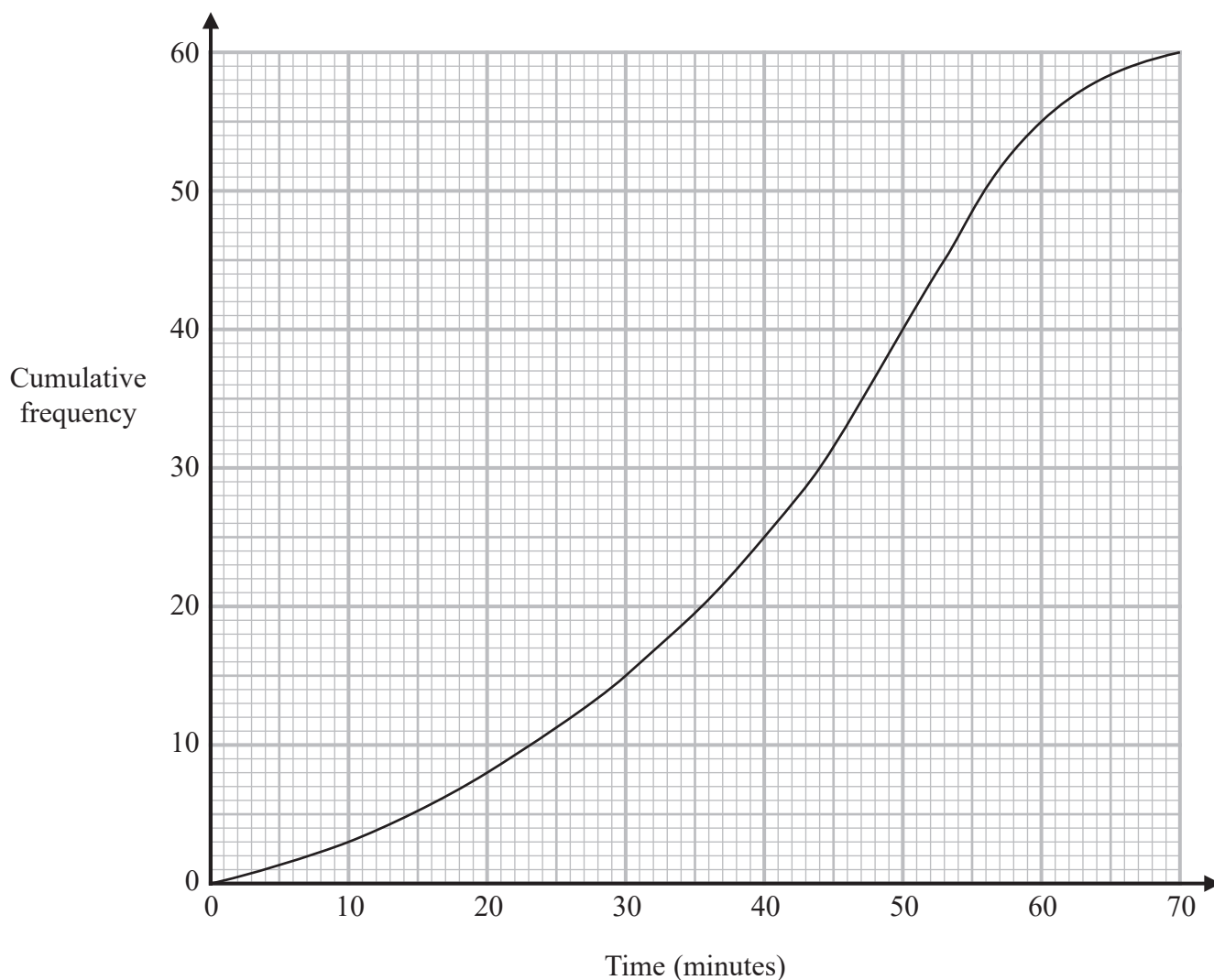
Write your answers on the dotted lines.

Equation	Graph
$y = -\frac{2}{x}$
$y = 5 - x^2$
$y = -2x^3$

(Total for Question 11 is 3 marks)



- 12 The cumulative frequency graph gives information about the time, in minutes, each of 60 people took to shop in a market.



- (a) Use the graph to find an estimate for the median time people took to shop in the market.

..... minutes

(1)

- (b) Use the graph to find an estimate for the number of people who took longer than 55 minutes to shop in the market.

.....

(2)



- (c) Use the graph to complete the frequency table to give information about the time, in minutes, each of the 60 people took to shop in the market.

Time taken to shop in the market (m minutes)	Frequency
$0 < m \leq 10$	3
$10 < m \leq 20$	5
$20 < m \leq 30$	
$30 < m \leq 40$	
$40 < m \leq 50$	
$50 < m \leq 60$	
$60 < m \leq 70$	

(2)

(Total for Question 12 is 5 marks)

13 Solve $\frac{x+3}{4} - \frac{7-x}{5} = 4.3$

Show clear algebraic working.

$x = \dots\dots\dots$

(Total for Question 13 is 3 marks)



14 A, B, C and D are points on a circle, centre O

EBF is the tangent to the circle at B

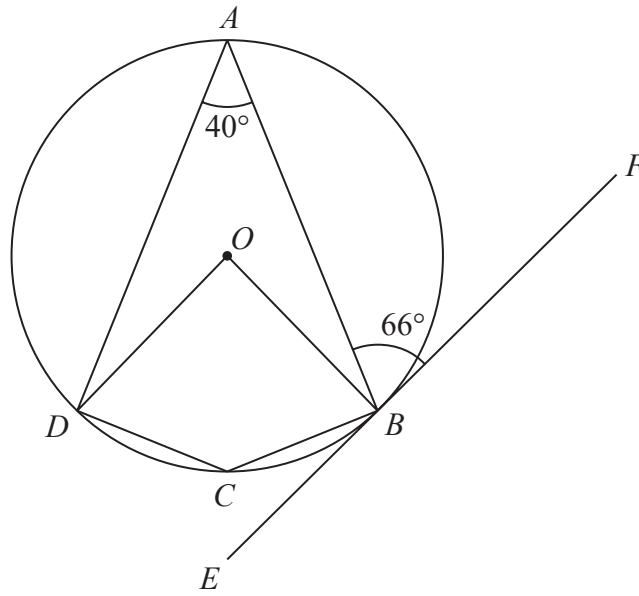


Diagram **NOT** accurately drawn

(a) (i) Work out the size of angle DCB

.....
(1)

(ii) Give a reason for your answer to (a)(i)

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

(b) Work out the size of angle ADO

.....
(3)

(Total for Question 14 is 5 marks)

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- 15 Here is a list giving the numbers of runs scored last week by the eleven members of cricket team A.

2 3 4 6 21 26 27 32 34 61 72

The interquartile range of the numbers of runs scored last week by the eleven members of cricket team B was 42

Using a suitable calculation, write down one comparison between the numbers of runs scored by the members of cricket team A and the members of cricket team B.
Show your working clearly.

(Total for Question 15 is 3 marks)

- 16 Use algebra to show that $0.4\dot{3}\dot{8} = \frac{217}{495}$

(Total for Question 16 is 2 marks)



17 Given that $8\sqrt{m} + \sqrt{49m} - \sqrt{9m} = k\sqrt{m}$
where k is an integer and m is a prime number,

(a) work out the value of k

$$k = \dots\dots\dots (1)$$

(b) Show that $\frac{5 - \sqrt{18}}{1 - \sqrt{2}}$ can be written in the form $a + b\sqrt{2}$

where a and b are integers.

Show each stage of your working clearly.

(3)

(Total for Question 17 is 4 marks)

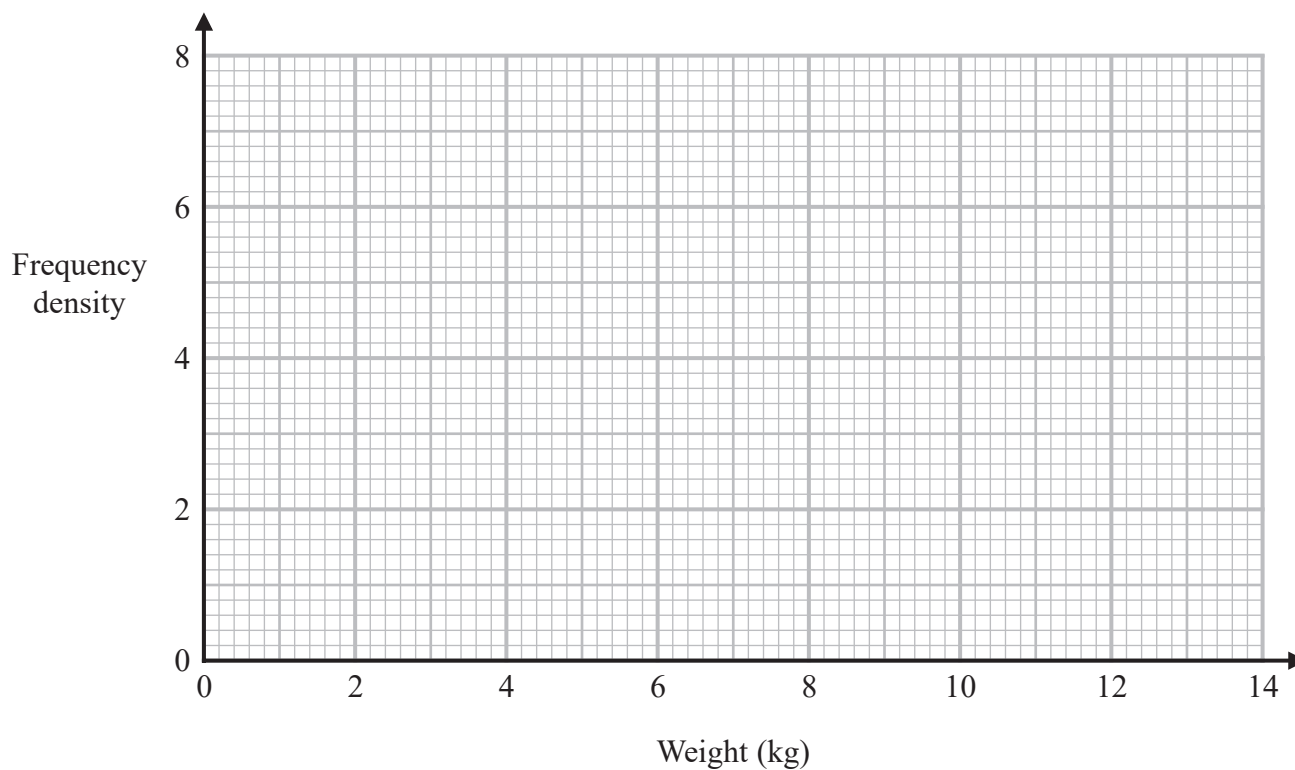


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18 The table gives information about the weights, in kg, of the parcels that Pedro delivers on Monday.

Weight (w kg)	Frequency
$0 < w \leq 2$	12
$2 < w \leq 3$	7
$3 < w \leq 6$	15
$6 < w \leq 9$	12
$9 < w \leq 14$	9

(a) On the grid, draw a histogram for this information.



(3)

One of the parcels that Pedro delivered on Monday is chosen at random.

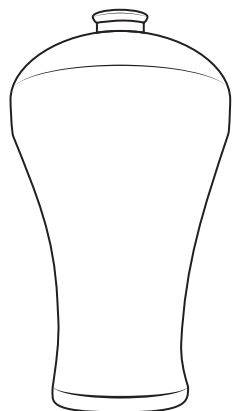
(b) Using the information in the table, find an estimate for the probability that this parcel weighs more than 7 kg.

.....
(2)

(Total for Question 18 is 5 marks)



19 **A** and **B** are two similar vases.



A



B

Diagram **NOT**
accurately drawn

The vases are such that

$$\text{surface area of vase B} = \frac{25}{64} \times \text{surface area of vase A}$$

and that

$$\text{volume of vase A} - \text{volume of vase B} = 541.8 \text{ cm}^3$$

Calculate the volume of vase **B**

..... cm³

(Total for Question 19 is 4 marks)

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