

19 Yusuf sat 8 examinations.

Here are his marks for 5 of the examinations.

68 72 75 77 80

For his results in all 8 examinations

- the mode of his marks is 80
- the median of his marks is 74
- the range of his marks is 16

Find Yusuf's marks for each of the other 3 examinations.

.....
.....
.....

(Total for Question 19 is 4 marks)



20 (a) Work out the lowest common multiple (LCM) of 36 and 120

.....
(2)

$$A = 5^2 \times 7^4 \times 11^p$$

$$B = 5^m \times 7^{n-5} \times 11$$

m , n and p are integers such that

$$m > 2$$

$$n > 10$$

$$p > 1$$

(b) Find the highest common factor (HCF) of A and B

Give your answer as a product of powers of its prime factors.

.....
(2)

(Total for Question 20 is 4 marks)



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21 Milly went on a car journey.
She travelled from Anesey to Breigh to Clando and then to Duckbridge.

For Anesey to Breigh, Milly drove the 245 km in 2.5 hours.

For Breigh to Clando, Milly drove the 220 km at an average speed of 80 km/h

For Clando to Duckbridge, Milly drove at an average speed of 72 km/h in 50 minutes.

Work out Milly's average speed, in km/h, for the journey from Anesey to Duckbridge.
Give your answer correct to one decimal place.

..... km/h

(Total for Question 21 is 4 marks)



22 (a) Write 5×10^4 as an ordinary number.

.....
(1)

(b) Write 0.000 06 in standard form.

.....
(1)

(c) Work out $(4 \times 10^{512}) \div (1.6 \times 10^{700})$
Give your answer in standard form.

.....
(2)

(Total for Question 22 is 4 marks)



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23 (a) Simplify $x^4 \times x^5$

.....
(1)

(b) Simplify $(4y^2)^3$

.....
(2)

(c) Factorise $n^2 - 7n + 12$

.....
(2)

(Total for Question 23 is 5 marks)



P 6 8 7 2 6 A 0 2 3 2 8

24 Jonty has a storage container in the shape of a cuboid, as shown in the diagram.

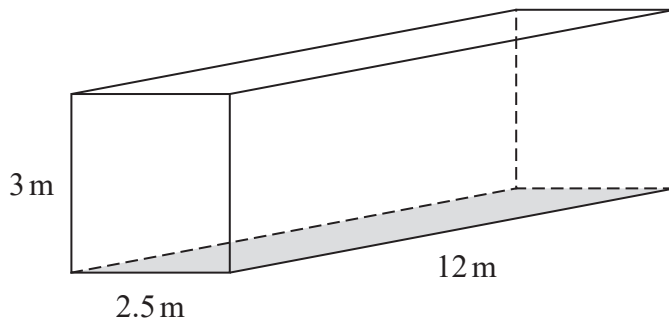


Diagram **NOT** accurately drawn

Jonty is going to paint the outside of his storage container, apart from the base which is shown shaded in the diagram.

He needs enough paint to cover the four sides and the top.

Each tin of paint covers an area of 15 m^2

The cost of each tin of paint recently increased by 10%

After the increase, the cost of each tin of paint is £26.95

Jonty says

“**Before** the increase, I could have bought enough paint for less than £200”

Show that Jonty is correct.

Show your working clearly.

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(Total for Question 24 is 6 marks)

TOTAL FOR PAPER IS 100 MARKS



P 6 8 7 2 6 A 0 2 5 2 8