

JMC Test Questions

Question 1

How many minutes is it from 23:35 today to 01:15 tomorrow?

100 110 120 130 140

Mr Routes way

$$25 + 15 + 60 = 100$$

$$\frac{0.2}{0.5} = \frac{2}{5} = 0.4$$

$\times 0.2$ by 10

$\times 0.5$ by 10

Question 2

which of these is equal to $(0.1 + 0.2 + 0.3 - 0.4) \div 5$

0.01 0.02 0.04 0.1 0.4

Answer

we have $0.1 + 0.2 + 0.3 = 0.6$

and therefore $0.1 + 0.2 + 0.3 - 0.4 = 0.6 - 0.4 = 0.2$

it follows that $(0.1 + 0.2 + 0.3 - 0.4) \div 5 = 0.2 \div 5$

Now $0.2 \div 5 = \frac{0.2}{5} = \frac{2}{5} = 0.4$

therefore $(0.1 + 0.2 + 0.3 - 0.4) \div 5 = 0.4$

Question 3

Sam has eaten three-quarters of the grapes.

What is the ratio of the number of grapes that remain to the number Sam has eaten?

1:3 1:4 1:5 1:6 1:7

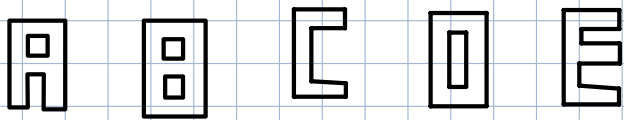
Answer

1:3

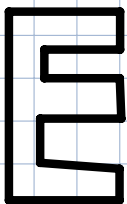
When Sam has eaten $\frac{3}{4}$ of the grapes, $\frac{1}{4}$ of the grapes are left.
Therefore the ratio of the number of grapes left to the number Sam has eaten is $\frac{1}{4} : \frac{3}{4}$. This is the same as 1:3

Question 4

Which of the following five shapes can be cut into four pieces by a single straight cut?



Answer



Question 5

On Aoife's 16 birthday, Buster was three times her age

On Aoife's 21 how old was Buster

32 48 53 63 64

Answer

When Aoife's age was 16, Buster's age was $3 \times 16 = 48$. Therefore Buster is $48 - 16 = 32$ years older

it follows that when Aoife was 21, Buster's age was $21 + 32 = 53$

Question 6

which of these is closest to 7?

7.09 6.918 7.17 6.7 7.085

Explanation

The option that is closest to 7 is the one whose difference from 7 is smaller than for any of the other options

we have

$$7.09 - 7 = 0.09$$

$$7 - 6.918 = 0.082$$

$$7.17 - 7 = 0.17$$

$$7 - 6.7 = 0.3$$

and

$$7.085 - 7 = 0.085$$

We see the smallest of these differences is 0.082. It follows that of the given numbers, it is 6.918 that is closest to 7

JMC 2019 (JMC 2019 Practice Questions (all years))

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Correct

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Question 7

Review mode

- The shortest street in the UK, *Ebenezer Place* in Wick, is 2.06m long.
- The *Trans-Canada Highway*, one of the world's longest roads, is approximately 7821km in length.
- Approximately, how many times longer than the street is the highway?

- 4 000 000
- 400 000
- 40 000
- 4000
- 400

Explanation

Since 1km = 1000m, it follows that
7821km = 7821 × 1000m. Therefore

$$\begin{aligned} \frac{7821\text{km}}{2.06\text{m}} &= \frac{7821 \times 1000}{2.06} \\ &\approx \frac{8000 \times 1000}{2} \\ &= 4000 \times 1000 = 4\,000\,000. \end{aligned}$$

Therefore the highway is approximately 4 000 000 times longer than the street.