

### Examination practice questions

**You should have:**

A ruler, protractor, compasses, a pen, pencil, eraser, calculator.  
For some questions, you may need tracing paper.

### Instructions

- Use **black** ink or ball-point pen.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- **Calculators may be used.**

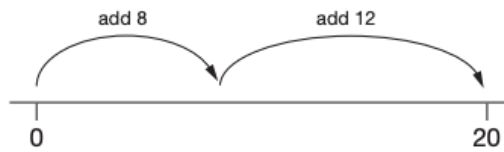
### Information

- The marks for each question are shown in brackets.
- If the number of marks for two similar questions isn't the same, this is likely due to them being modelled on different specifications. In this case, it is worth considering both mark schemes.
- Use the number of marks for each question as a guide as to how much time to spend on each question. As a rough guide, you can multiply the number of marks by 1.2 to see how many minutes you should spend on a question.
- Questions will generally get more challenging as the document progresses. Some of the latter questions will go beyond the core grade level for this topic.

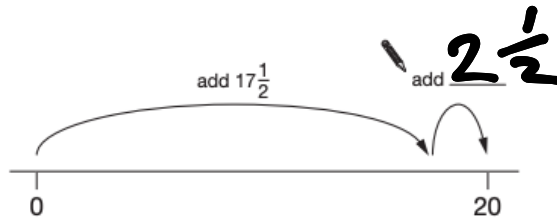
### Advice

- Read each question carefully before you start to answer it.
- Don't forget to have fun.
- Check your answers at the end.

This number line shows one way to use **two steps** to move from 0 to 20

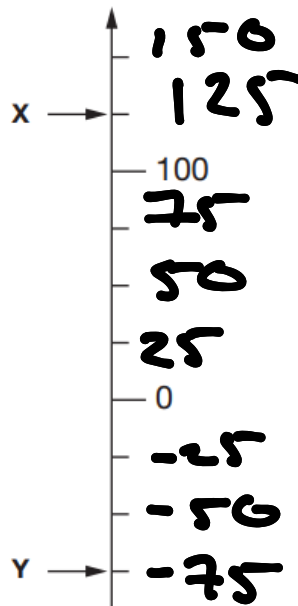


Write the missing number on the number line to show how to move from 0 to 20



(1 mark)

Find the values of **X** and **Y**



**B1**  
X = 125

Y = -75

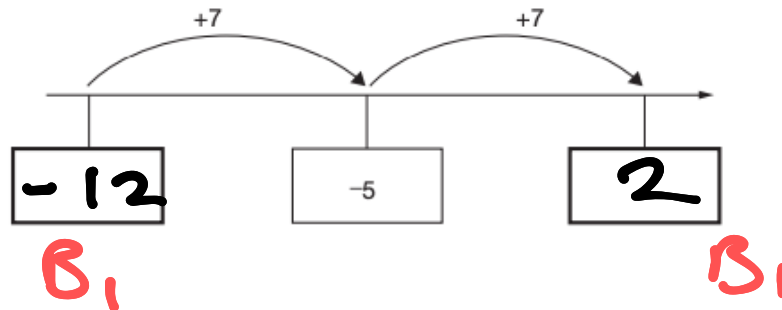
**B1** (2 marks)

Q3.

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Here is part of a number line.

Write the missing numbers in the boxes.

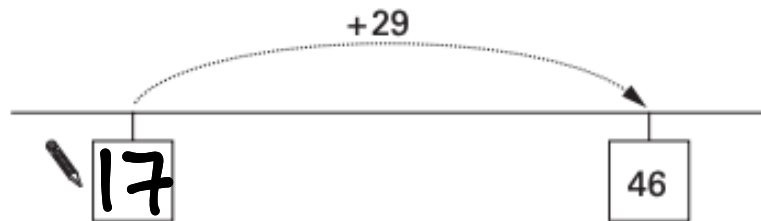


(1 mark)

Q4.

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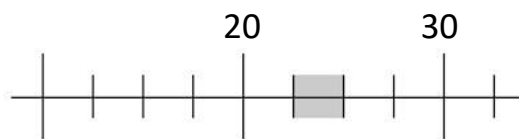
Write the missing number on the number line.



(1 mark)

Q5.

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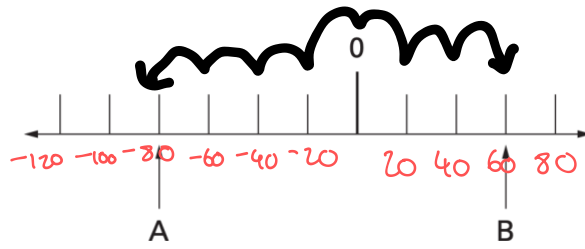
Give an example of a number that could belong in the shaded part of the number line.

Any of:  $23, 24, 25$

24

(1 mark)

A and B are two numbers on the number line below.



The difference between A and B is 140.

Write the values of A and B.

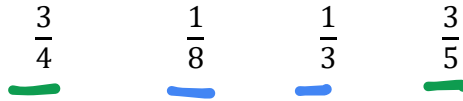
140 OVER  
7 STEPS.  
EACH STEP IS WORTH  
20!

B1  
A = -80

B1  
B = 60

(2 marks)

Here are four fractions.

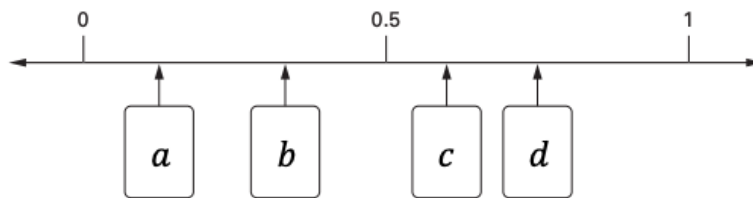


MORE THAN 0.5

Look at the number line below.

SMALLER THAN 0.5

Find the values of A, B, C and D



$\frac{3}{4}$  IS BIGGER THAN  
(0.75)

$\frac{3}{5}$  (0.60)

B1 a =  $\frac{1}{8}$

B1 b =  $\frac{1}{3}$

c =  $\frac{3}{5}$

B1 B1 d =  $\frac{3}{4}$

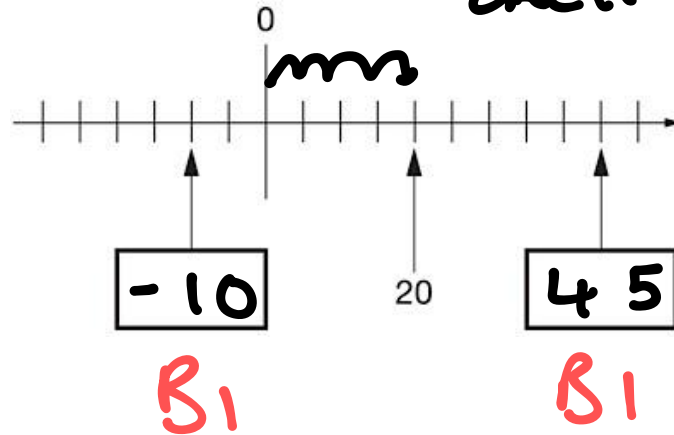
$\frac{1}{8}$  IS SMALLER THAN  
(0.125)

$\frac{1}{3}$  (0.33)

(4 marks)

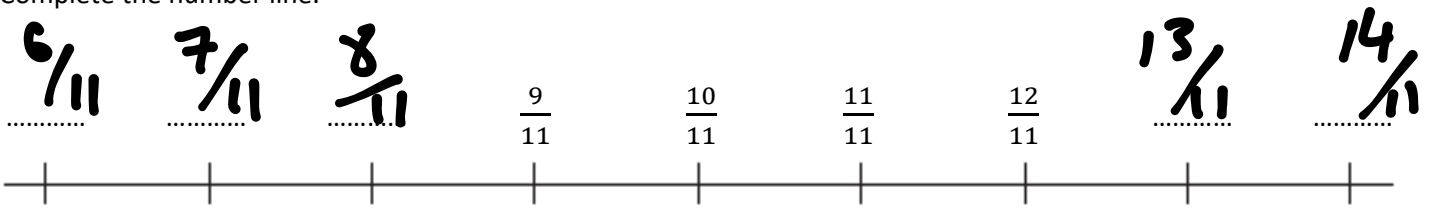
Here is part of a number line.  
Write the missing numbers in the boxes.

4 STEPS = 20  
EACH STEP = 5



(1 mark)

Complete the number line.

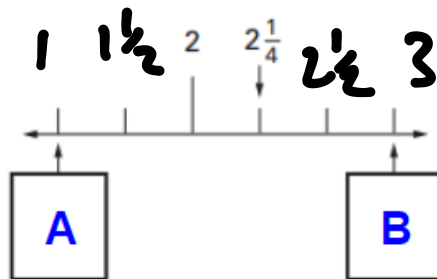


B1 TWO CORRECT  
A1 ALL CORRECT

(2 marks)

Here is part of a number line.  
Write in the value of the missing fraction B.

GOING UP BY 1/4



B1 A =  $\frac{1}{3}$   
B =  $\frac{3}{4}$   
B1

(2 marks)

# QUESTIONS FROM MATHEMATICAL COMPETITIONS

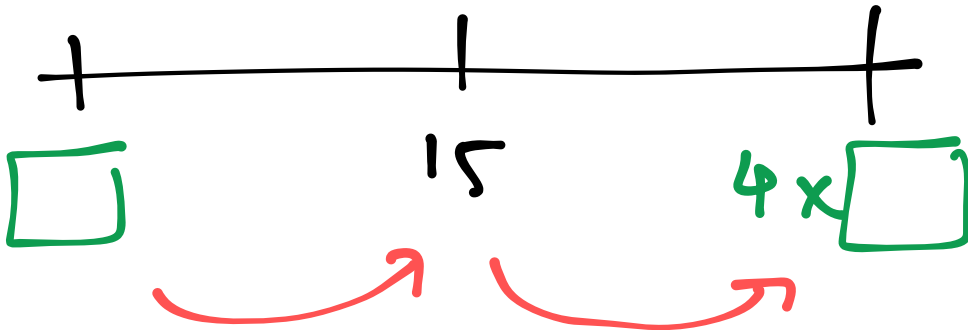
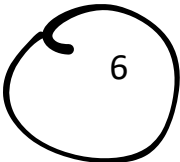
Q11.

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Three positive integers are equally spaced on a number line. The middle number is 15, and the largest number is 4 times the smallest number. What is the smallest of these three numbers?

Circle the correct answer.

4      5      6      7      8



EACH JUMP IS EQUAL

$$4 \times \square - 15 = 15 - \square$$

(THIS CAN BE SOLVED AS AN EQUATION)

THE MISSING NUMBER IS 6!