INTERVALS

BUILDING BLOCKS

NAME _____ CLASS _____ DATE _____

KEY IDEA

The numbers on a number line go up in equal steps, just like a sequence. Here they go up in 5s.

0, 5, 10, 15, 20 ... so the missing number is 15.

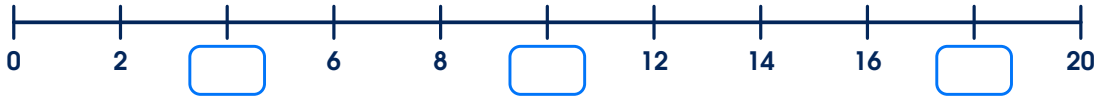


1 Fill in the missing numbers. Count up in 1s, then in 2s.

a)



b)



2 Fill in the missing numbers. Count up in 5s, then in 10s.

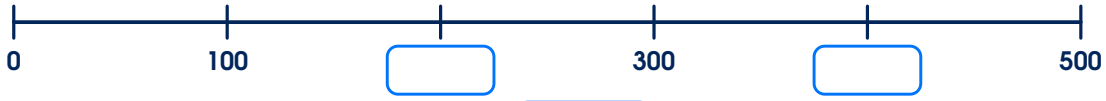
a)



b)

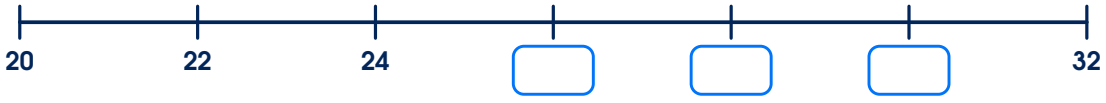


3 Fill in the missing numbers on this number line.



What do the numbers go up in each time? _____

4 This number line does not start at 0. Fill in the missing numbers.



INTERVALS

SUPPORT

NAME _____ CLASS _____ DATE _____

KEY IDEA

Count the jumps (intervals), not the marks.

20 ÷ 4 intervals = 5, so each interval is worth 5.



1 Write the missing numbers.

a)



b)



2 What number is each arrow pointing to?

a)



b)



A = _____ B = _____ C = _____ D = _____

3 Here is a number line from 0 to 40.



a) How many intervals are there? _____

b) What is each interval worth? _____

c) Draw an arrow to show where 25 is on the number line.

4 What number is halfway between...

a) 0 and 10 _____

b) 20 and 40 _____

c) 0 and 100 _____

d) 60 and 80 _____

INTERVALS

CORE

NAME _____ CLASS _____ DATE _____

KEY IDEA

Interval = difference between two labelled values ÷ number of intervals between them. Count the gaps, not the marks. For example, 600 to 900 with 6 intervals: 300 ÷ 6 = 50

FLUENCY

1 The marks on each number line are equally spaced. What is each interval worth?

a)



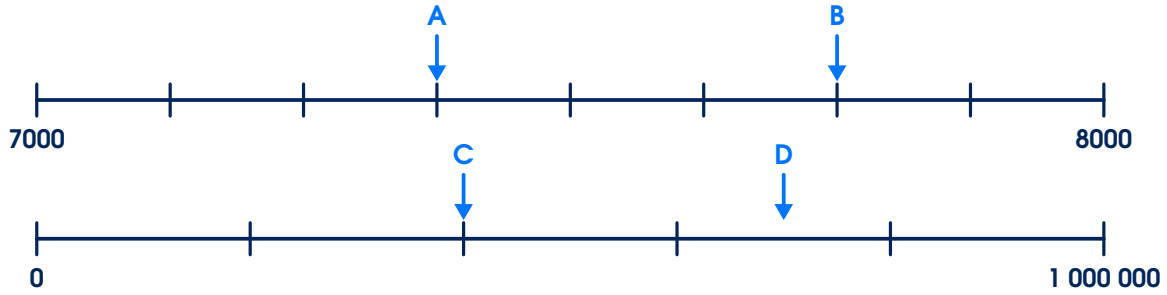
each worth ☐

b)



each worth ☐

2 What number is each arrow pointing to?



A = ☐ B = ☐ C = ☐ D = ☐

REASONING

3 Draw arrows to estimate the positions of 300, 750 and 980 on this number line.



Explain how you decided where to put 750.

.....

4 Amir says, "Halfway between 1200 and 2000 is 1000." Explain why he is wrong.

.....

The correct midpoint is ☐

INTERVALS

GREATER DEPTH

NAME _____ CLASS _____ DATE _____

REASONING

1 Is each statement always, sometimes or never true? Circle your answer.

If it is sometimes true, give an example of when it is true and when it is not.

a) More intervals from 0 to 100 means each is worth less. ALWAYS SOMETIMES NEVER

b) Halfway between two multiples of 10 is a multiple of 10. ALWAYS SOMETIMES NEVER

c) A line with 10 equally spaced marks has 10 intervals. ALWAYS SOMETIMES NEVER

PROBLEM SOLVING

2 The marks are equally spaced. Write the missing numbers.

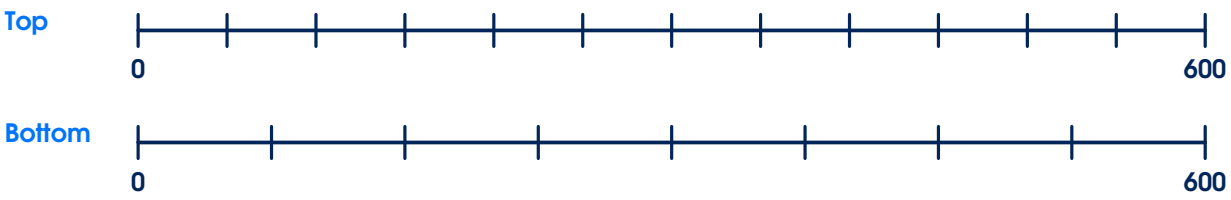


3 A number line starts at 0 and has 12 equal intervals. The 5th mark after 0 is 150.

a) What is each interval worth? ☐ **b)** What number is at the end? ☐

★ CHALLENGE FOR ALL

4 Both number lines go from 0 to 600 and have equally spaced marks.



a) Write every number that is on a mark on both number lines.

b) 375 is on a mark of the bottom line. Where is 375 on the top line?

INTERVALS

ANSWERS

BUILDING BLOCKS

1 a) 3, 6, 8 · b) 4, 10, 18

2 a) 5, 20, 35 · b) 20, 60, 90

3 200, 400 · they go up in 100s

4 26, 28, 30

SUPPORT

1 a) 10, 20, 30, 40 · b) 30, 70

2 A = 6 · B = 16 · C = 400 · D = 900

3 a) 8 · b) 5 · c) arrow at the 5th mark after 0 (between 20 and 30)

4 a) 5 · b) 30 · c) 50 · d) 70

CORE

1 a) 150 · b) 20

2 A = 7375 · B = 7750 · C = 400 000 · D = 700 000

3 300 a little less than one-third of the way along; 750 halfway between the midpoint (500) and 1000; 980 very close to 1000. Explanation: find 500 in the middle, then halfway between 500 and 1000

4 Amir has halved 2000 instead of finding the middle of 1200 and 2000. The difference is 800, half of 800 is 400, so the midpoint is 1200 + 400 = 1600

GREATER DEPTH

1 a) Always · b) Sometimes, e.g. 10 and 30 → 20, but 10 and 20 → 15 · c) Never (10 marks make 9 intervals)

2 Each interval is 50: 290, 440, 590

3 a) 150 ÷ 5 = 30 · b) 12 × 30 = 360

★ Top intervals are 50, bottom intervals are 75. a) 0, 150, 300, 450, 600 · b) halfway between the marks for 350 and 400