DECIMALS ON NUMBER LINES

BUILDING BLOCKS

NAME _____ CLASS _____ DATE _____

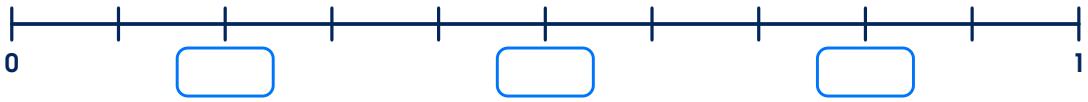
KEY IDEA

Between 0 and 1 there are 10 tenths.

Each interval is worth 0.1



1 Write the missing decimals.



2 What number is each arrow pointing to?

a)

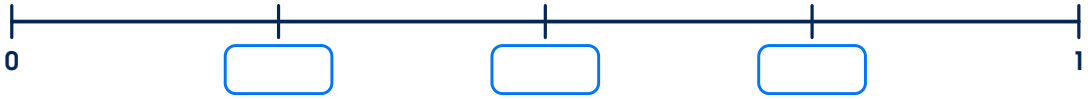


b)



A = B = C = D =

3 This number line from 0 to 1 has 4 equal intervals. Write the missing decimals.



4 What number is halfway between...

a) 0 and 1

b) 0.2 and 0.4

c) 3 and 4

d) 0.5 and 1

DECIMALS ON NUMBER LINES

SUPPORT

NAME _____ CLASS _____ DATE _____

KEY IDEA

Between 0 and 0.1 there are 10 hundredths, so each interval is 0.01

Always check the labels first.



1 What is each interval worth?

a)



Each interval is worth ☐

b)



Each interval is worth ☐

c)



Each interval is worth ☐

2 Write the missing decimals.

a)



b)



3 What number is each arrow pointing to?



b)



A = ☐ B = ☐ C = ☐ D = ☐

4 What number is halfway between...

a) 0.2 and 0.3 ☐ b) 7.4 and 7.5 ☐ c) 0 and 0.1 ☐

DECIMALS ON NUMBER LINES

CORE

NAME _____ CLASS _____ DATE _____

KEY IDEA

Do not assume each interval is 0.1: work it out from the labels. Interval = difference ÷ number of intervals. For example, 2.4 to 2.5 with 5 intervals: 0.1 ÷ 5 = 0.02

FLUENCY

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

a) 

each worth ☐

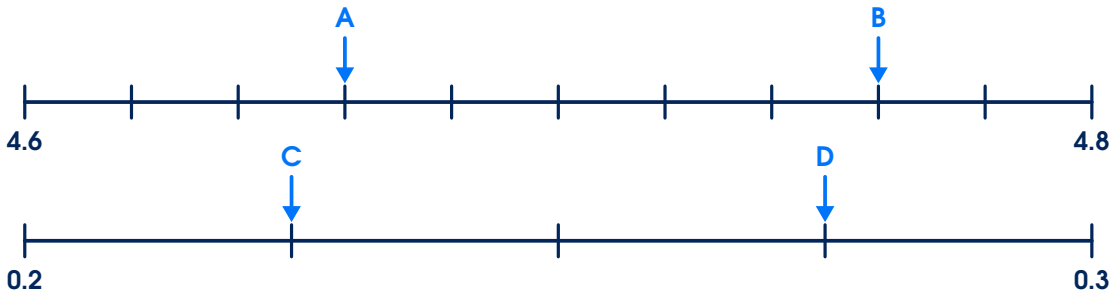
b) 

each worth ☐

c) 

each worth ☐

2 What number is each arrow pointing to?



A = ☐ B = ☐ C = ☐ D = ☐

REASONING

3 Draw arrows to show where 3.25, 3.7 and 3.08 are on the number line.



4 Jo says, "Halfway between 8.3 and 8.4 is 8.31." Is Jo correct? Explain your answer.

.....

.....

DECIMALS ON NUMBER LINES

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) With 10 equal intervals, each one is worth 0.1 — ALWAYS / SOMETIMES / NEVER

b) There is a decimal between any two different decimals. — ALWAYS / SOMETIMES / NEVER

c) Halfway between two 1 d.p. numbers has 2 d.p. — ALWAYS / SOMETIMES / NEVER

PROBLEM SOLVING

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



3 On a number line, A is 0.36 and B is 0.48

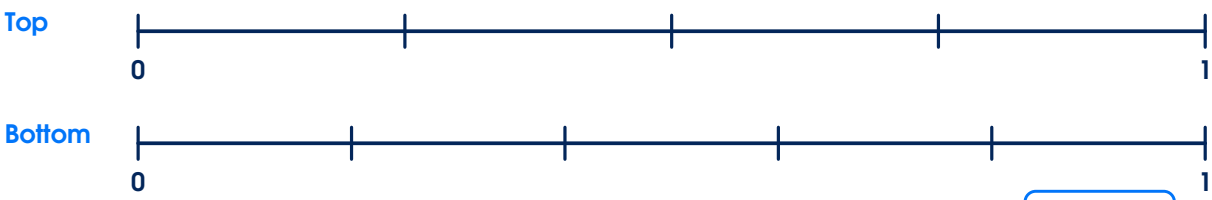
C is halfway between A and B. ☐

D is halfway between C and B. ☐

E is one-quarter of the way from A to B. ☐

★ CHALLENGE FOR ALL

4 Both number lines go from 0 to 1 and have equally spaced marks.



a) Find the number halfway between the first marks after 0 on the two lines. ☐

b) A third number line from 0 to 1 has a mark at every mark on both lines.

Largest possible interval: ☐ Number of intervals: ☐

DECIMALS ON NUMBER LINES

ANSWERS

BUILDING BLOCKS

1 0.2, 0.5, 0.8

2 A = 0.3 · B = 0.7 · C = 2.4 · D = 2.9

3 0.25, 0.5, 0.75

4 a) 0.5 · b) 0.3 · c) 3.5 · d) 0.75

SUPPORT

1 a) 0.2 · b) 0.01 · c) 0.25

2 a) 0.2, 0.4, 0.6, 0.8 · b) 0.32, 0.37

3 A = 5.3 · B = 5.8 · C = 1.24 · D = 1.29

4 a) 0.25 · b) 7.45 · c) 0.05

CORE

1 a) 0.05 · b) 0.1 · c) 0.001

2 A = 4.66 · B = 4.76 · C = 0.225 · D = 0.275

3 3.08 just before the first mark (3.1); 3.25 halfway between the 2nd and 3rd marks (3.2 and 3.3); 3.7 on the 7th mark

4 No. 8.31 is only one-tenth of the way from 8.3 to 8.4. 8.3 = 8.30 and 8.4 = 8.40, so halfway is 8.35

GREATER DEPTH

1 a) Sometimes, e.g. 0 to 1 gives 0.1 but 0 to 10 gives 1 · b) Always, e.g. between 0.4 and 0.41 is 0.405 · c) Sometimes, e.g. 0.2 and 0.5 → 0.35, but 0.2 and 0.4 → 0.3

2 Each interval is 0.25: 1, 1.75, 3

3 C = 0.42 · D = 0.45 · E = 0.39

★ Top marks are every 0.25, bottom marks every 0.2. a) halfway between 0.25 and 0.2 is 0.225 · b) 0.05 (every multiple of 0.25 and of 0.2 is a multiple of 0.05), giving 20 intervals