LESSON MAKER PRO

Zero Point Paths

Read fractions and decimals as distances from zero.

GRADE 4 · TEKS 4.3.G

4.3.G "represent fractions and decimals to the tenths or hundredths as distances from zero on a number line."

NAME _____ DATE _____

DISTANCE FROM ZERO

A fraction or decimal tells how far a point is from 0 on a number line. Tenths split 1 whole into 10 equal parts, and hundredths split 1 whole into 100 equal parts.

WORKED EXAMPLE

Read point P on the number line. How far is P from 0? Write a decimal and a fraction in tenths.

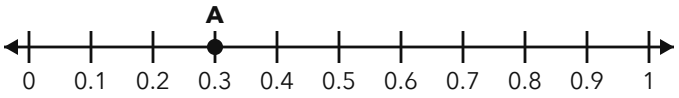


1. Start at 0 and count 6 equal tenths to P.
2. Write 6 tenths as 6/10.
3. Write 6 tenths as 0.6.

Answer: P is 0.6 unit from 0, or 6/10 unit.

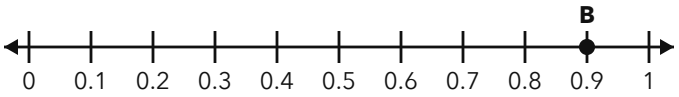
PRACTICE 6 problems

1 Read point A on the number line. Write its distance from 0 as a decimal.



ANSWER _____

2 Read point B on the number line. Write its distance from 0 as a fraction in tenths.



ANSWER _____

3 A point is 7/10 unit from 0. Write the distance as a decimal.

ANSWER _____

4 A point is 0.45 unit from 0. Write the distance as a fraction in hundredths.

ANSWER _____

5 Which point is farther from 0, a point at 0.8 or a point at 0.08? Explain using tenths and hundredths.

ANSWER _____

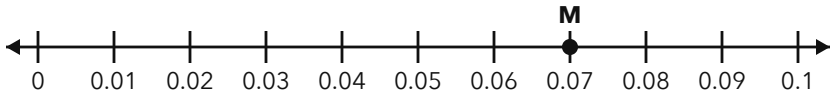
_____

6 A point lies exactly halfway between 0.2 and 0.3 on a number line. What is its distance from 0 as a decimal?

ANSWER _____

APPLY IT Show your work

1 Mina measures a tiny shell for her science collection. Point M on the number line shows the shell's length in meters from 0. Write the length as a decimal and as a fraction in hundredths. On this same line mark and label your own point N at 0.04 meter. Draw an arrow from 0 to N and write that distance as a fraction in hundredths.



ANSWER _____

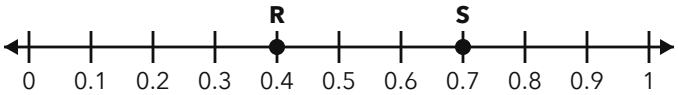
2 Kai's remote-control car stops 0.35 meter from the start. His sister's car stops 3/10 meter from the start. Which car is farther from the start, and how much farther does it stop?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Points R and S are shown on the number line. Point C is exactly halfway between R and S. What is C's distance from 0 as a decimal and as a fraction in hundredths? Explain how you found it.



WORK SPACE AND ANSWER

ANSWER KEY

Zero Point Paths

GRADE 4 · TEKS 4.3.G

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Read point A on the number line. Write its distance from 0 as a decimal.	**0.3**
2	Read point B on the number line. Write its distance from 0 as a fraction in tenths.	**9/10**
3	A point is 7/10 unit from 0. Write the distance as a decimal.	**0.7**
4	A point is 0.45 unit from 0. Write the distance as a fraction in hundredths.	**45/100**
5	Which point is farther from 0, a point at 0.8 or a point at 0.08? Explain using tenths and hundredths.	**0.8 is farther from 0 because 0.8 is 8 tenths and 0.08 is 8 hundredths.**
6	A point lies exactly halfway between 0.2 and 0.3 on a number line. What is its distance from 0 as a decimal?	**0.25**

PART 2 · APPLY IT

1. **M: 0.07 meter = 7/100 meter. N: fourth hundredth tick, 0.04 meter = 4/100 meter, with an arrow from 0 to N.** Read M at seven hundredths. Check the learner's actual N mark at the fourth tick after 0 and the distance arrow from 0 to 0.04; numerical answers alone do not complete the new representation.
2. **Kai's car is farther from the start by 0.05 meter.** Write 3/10 as 0.30. Compare 0.35 and 0.30, then subtract to find 0.05.

CHALLENGE

C is 0.55 unit from 0, or 55/100 unit. The distance from 0.4 to 0.7 is 0.3, and half of 0.3 is 0.15. Adding 0.15 to 0.4 gives 0.55.

For items that ask for a fraction in tenths or hundredths, require the named denominator. Accept an equivalent decimal written with an extra ending zero, such as 0.70 for 0.7.

Zero Point Paths

Apply1 solution: M and learner point N with their distances from zero

