

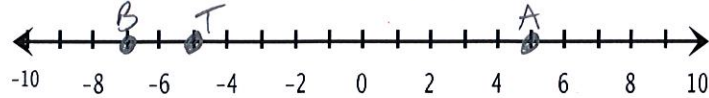
# Geometry

Name: Key

## Homework - Partitioning Segments

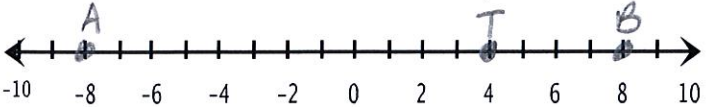
Date: \_\_\_\_\_

1. A is at 5 and B is at -7. Find the point, T, so that T is five-sixths of the distance from A to B.



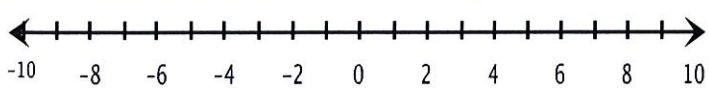
$$5 + \frac{5}{6}(-7-5) = 5 + \frac{5}{6}(-12) = 5 - 10 = \boxed{-5}$$

2. A is at -8 and B is at 8. Find the point, T, so that T partitions A to B in a 6:2 ratio.



$$-8 + \frac{6}{8}(8-(-8)) = -8 + \frac{6}{8}(16) = -8 + 12 = \boxed{4}$$

3. A is at 2 and B is at 6. Find the point, T, so that T partitions A to B in a 1:3 ratio.



$$2 + \frac{1}{4}(6-2) = 2 + \frac{1}{4}(4) = 2 + 1 = \boxed{3}$$

4. Find the coordinates of T that partitions A(-7, 42) to B(19, 3) in a 10:3 ratio.

$$T\left(-7 + \frac{10}{13}(19-(-7)), 42 + \frac{10}{13}(3-42)\right) = \boxed{(13, 12)}$$

5. Find the coordinates of T so that T is three-fifths the distance from A(13, -8) to B(18, -18).

$$T\left(13 + \frac{3}{5}(18-13), -8 + \frac{3}{5}(-18-(-8))\right) = \boxed{(16, -14)}$$

6. Riley is going to the mall after school. She drops her phone 1/5th of the way from the school to the mall. Where did she drop her phone?

School (5, 5) Mall (0, 15)

$$\left(5 + \frac{1}{5}(0-5), 5 + \frac{1}{5}(15-5)\right) = \boxed{(4, 7)}$$

7. Camden currently at Publix picking up some sunscreen and then is driving to Six Flags. He has to stop at the gas station which is halfway between Publix and Six Flags. Where is the gas station? Publix (1, 6) Six Flags (12, 18)

Use midpoint formula

$$\left(\frac{1+12}{2}, \frac{6+18}{2}\right) = \boxed{(6.5, 12)}$$

8. Shane is at the park and is meeting Jives at the soccer field that is two-thirds of the way from the park to the movie theatre. Where is the soccer field? Park (14, 0) Movie Theatre (17, 15)

$$\left(14 + \frac{2}{3}(17-14), 0 + \frac{2}{3}(15-0)\right) = \boxed{(16, 10)}$$

