## G5-M6-Lesson 1

1. Answer the following questions using number line $P$, below.

> The origin is always zero.

   a. What is the coordinate, or the distance from the origin, of the ⬠ ?

    20

> The coordinate tells the distance from the zero to the shape on the number line.
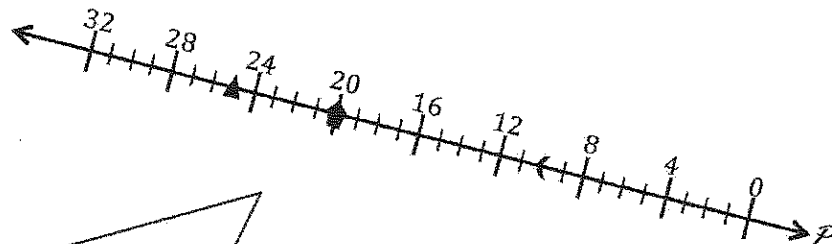
   b. What is the coordinate of ▲ ?

               25

   c. What is the coordinate at the midpoint between ❨ and ⬠ ?

    15

> The distance from the moon to the pentagon is 10 units, so the midpoint will be 5 units from each shape.



> This number line increases from right to left. Number lines can go in any direction.

2. Use the number line to answer the questions.

   a. Plot $P$ so its distance is $\frac{2}{10}$ from the origin.

> The first tick mark is 0, and the second is 0.4. The distance between tick marks is 0.4, or $\frac{4}{10}$.

   b. Plot $Q$ 12 tenths farther from the origin than point $P$.

   c. Plot $R$ so its distance is 1 closer to the origin than point $Q$.

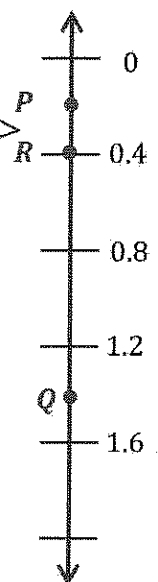> 12 tenths more than 2 tenths is 14 tenths, or 1.4.

   d. What is the distance from $P$ to $R$?

> I can think of 1 as 10 tenths.

    *The distance from P to R is 0.2.*



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3.  Number line $L$ shows 18 units.  Use number line $L$, below, to answer the questions.
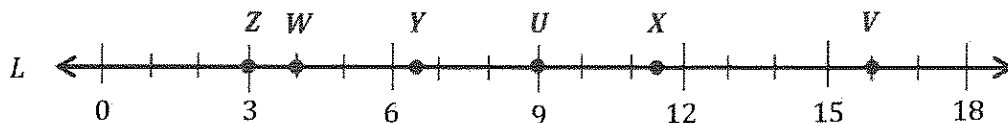


a.  Plot a point at $3$.  Label it $Z$.

b.  Label point $Y$ at point $6\frac{1}{2}$.

> The units are one, and they are indicated by the tick marks on the number line.

c.  Plot a point $X$ that is 5 units farther from zero than point $Y$.

> "Closer to the origin" means I have to move to the left along this number line.

d.  Plot $W$ $\frac{5}{2}$ closer to the origin than point $Y$.  What is the coordinate of point $W$?

*The coordinate of point W is 4.*

e.  What is the coordinate of the point that is 4.5 units farther from the origin than point $X$?  Label this point $V$.

*The coordinate of point V is 16.*

> $11\frac{1}{2} + 4\frac{1}{2} = 16$

f.  Label point $U$ midway between point $Y$ and point $X$.  What is the coordinate of this point?

*The coordinate midway between points Y and X is 9.*

4.  A pirate buried stolen treasure in a vacant lot.  He made a note that he buried the treasure 15 feet from the only tree on the lot.  Later he could not find the treasure.  What did he do wrong?

*He did not indicate what direction from the tree he buried the treasure.  If he just says fifteen feet from the tree, he'd have to dig a circle around the tree to find the treasure.*

**Lesson 1:**     Construct a coordinate system on a line.

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