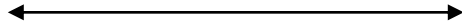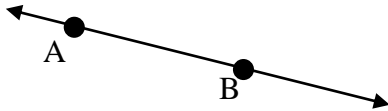Name_____ Period_____ Date_____

Parts of a Line

A _____ is drawn with an arrow pointing in both directions. The arrows mean that the line goes on *forever*.

To tell the difference between different lines, we use two points on them.
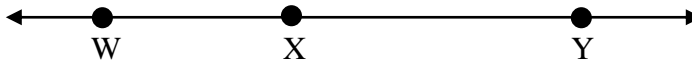

We say this is "LINE AB".   We say this is "LINE CD."

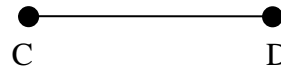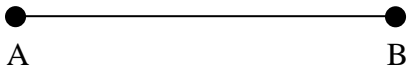We write this as $\overleftrightarrow{AB}$ or $\overleftrightarrow{BA}$.   We write this as $\overleftrightarrow{CD}$ or $\overleftrightarrow{DC}$.

What if there is more than one point on a **line**? Simple. It just means that it has more names.

We can call this $\overleftrightarrow{WX}$, $\overleftrightarrow{XW}$, $\overleftrightarrow{WY}$, $\overleftrightarrow{YW}$, $\overleftrightarrow{WY}$, or $\overleftrightarrow{YW}$. All of these are talking about the same line.

A _____ is a specific part of the line from one point to another. We draw them with points on both ends. This means that we are talking about *a certain distance*. You can always take a ruler and say how long it is. You can't do that with a **line**.

We say this is "LINE SEGMENT AB."   We say this is "LINE SEGMENT CD."

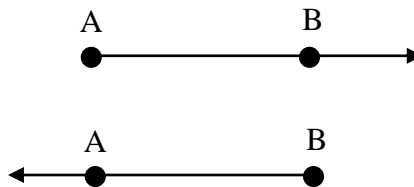We write this as $\overline{AB}$ or $\overline{BA}$.   We write this as $\overline{CD}$ or $\overline{DC}$.

A _____ is a combination of a line segment and a line. It always starts at a point and then goes forever.
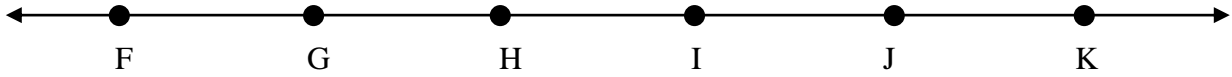
We say this is "RAY AB."

We write this as $\overrightarrow{AB}$.

This is not the same as $\overrightarrow{BA}$

Look at $\overleftrightarrow{FG}$. Find the length of the indicated line segments.

F   G   H   I   J   K

1) $\overline{FG}$ = _____ inches   2) $\overline{FH}$ = _____ inches

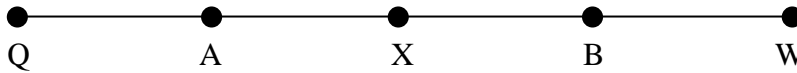3) $\overline{HK}$ = _____ inches   4) $\overline{HJ}$ = _____ inches
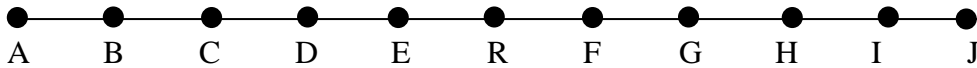
5) $\overline{IG}$ = _____ inches   6) $\overline{KG}$ = _____ inches

A _____ is a point that is in the middle of a line segment.

For example: X is the midpoint of $\overline{AB}$. X is also the midpoint of $\overline{QW}$.

Q   A   X   B   W

If **R is the midpoint of** $\overline{AJ}$ in the picture below, then what are the lengths of the following line segments?

A   B   C   D   E   R   F   G   H   I   J

7) $\overline{AB}$ = _____ inches   8) $\overline{DE}$ = _____ inches
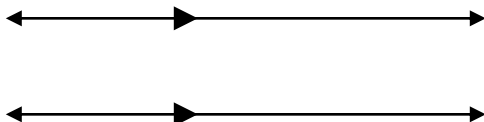
9) $\overline{RG}$ = _____ inches   10) $\overline{BF}$ = _____ inches
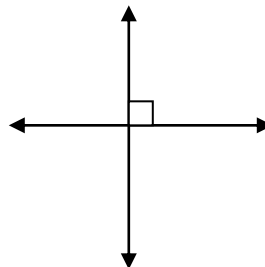
11) $\overline{RA}$ = _____ inches   12) $\overline{CE}$ = _____ inches
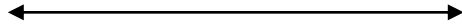
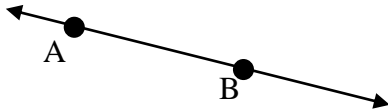_____ are lines that will never cross.

_____ are lines that cross at a 90^0 angle.

Name____ANSWER KEY_____ Period_____ Date_____
Parts of a Line

A **Line** is drawn with an arrow pointing in both directions. The arrows mean that the line goes on *forever*.

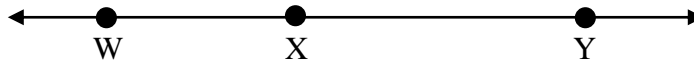To tell the difference between different lines, we use two points on them.

A
B

C
D

We say this is "LINE AB".   We say this is "LINE CD."

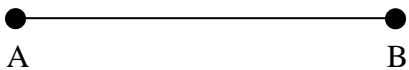We write this as $\overleftrightarrow{AB}$ or $\overleftrightarrow{BA}$.   We write this as $\overleftrightarrow{CD}$ or $\overleftrightarrow{DC}$.

What if there is more than one point on a **line**? Simple. It just means that it has more names.

W   X   Y

We can call this $\overleftrightarrow{WX}$, $\overleftrightarrow{XW}$, $\overleftrightarrow{WY}$, $\overleftrightarrow{YW}$, $\overleftrightarrow{WY}$, or $\overleftrightarrow{YW}$. All of these are talking about the same line.

A **Line Segment** is a specific part of the line from one point to another. We draw them with points on both ends. This means that we are talking about *a certain distance*. You can always take a ruler and say how long it is. You can't do that with a **line**.

A   B   C   D

We say this is "LINE SEGMENT AB."   We say this is "LINE SEGMENT CD."

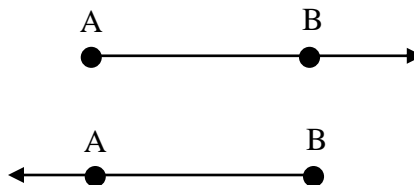We write this as $\overline{AB}$ or $\overline{BA}$.   We write this as $\overline{CD}$ or $\overline{DC}$.

A **Ray** is a combination of a line segment and a line. It always starts at a point and then goes forever.
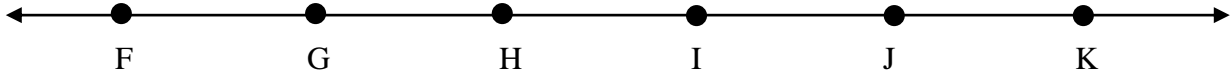
We say this is "RAY AB."   A   B

We write this as $\overrightarrow{AB}$.

This is not the same as $\overrightarrow{BA}$ A   B

Look at $\overleftrightarrow{FG}$. Find the length of the indicated line segments.

F   G   H   I   J   K

1) $\overline{FG}$ = __1__ inches   2) $\overline{FH}$ = __2__ inches

3) $\overline{HK}$ = __3__ inches   4) $\overline{HJ}$ = __2__ inches

5) $\overline{IG}$ = __2__ inches   6) $\overline{KG}$ = __4__ inches
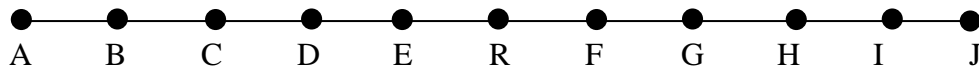
A **Midpoint** is a point that is in the middle of a line segment.

For example: X is the midpoint of $\overline{AB}$. X is also the midpoint of $\overline{QW}$.

Q   A   X   B   W

If **R is the midpoint of** $\overline{AJ}$ in the picture below, then what are the lengths of the following line segments?

A   B   C   D   E   R   F   G   H   I   J
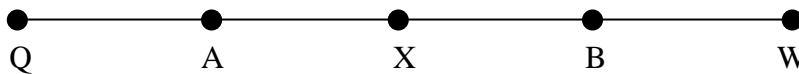
7) $\overline{AB}$ = __1/2__ inches   8) $\overline{DE}$ = __1/2__ inches

9) $\overline{RG}$ = __1__ inches   10) $\overline{BF}$ = _2 1/2_ inches

11) $\overline{RA}$ = _2 1/2_ inches   12) $\overline{CE}$ = __1__ inches

Parallel Lines are lines that will never cross.
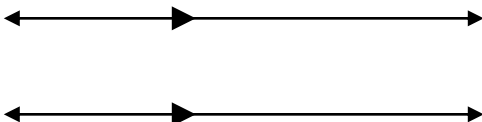
Perpendicular Lines are lines that cross at a 90^0 angle.