A $\qquad$ is a number that is only divisible by 1 and itself, with the exception of the number 1 .

## Ex:

The square root $(\sqrt{ }$ or $\sqrt[2]{ })$ is the most common $\qquad$ used in Geometry. If you are taking the square root of a number that is not a perfect square, then you must use the
$\qquad$ method to simplify it.

## Ex 1:

Simplify the radical.
a) $\sqrt{25}$
b) $\sqrt{20}$
c) $\sqrt{48}$
d) $\sqrt{96}$
e) $\sqrt{180}$
f) $\sqrt{360}$

If a segment is running $\qquad$ (left and right)
or $\qquad$ (up and down)
on a coordinate grid, then you can count its length.
You can $\qquad$ count the length of a segment that runs diagonally. You must use the Pythagorean Theorem or Distance Formula.

RIGHT
$\mathrm{AB}=7$


WRONG
$A B=4$

## The Distance Formula

If $\mathrm{A}\left(\mathrm{x}_{1}, \mathrm{y}_{1}\right)$ and $\mathrm{B}\left(\mathrm{x}_{2}, \mathrm{y}_{2}\right)$ are points in a coordinate plane, then the distance between $A$ and $B$ is

$$
A B=\sqrt{\left(x_{1}-x_{2}\right)^{2}+\left(y_{1}-y_{2}\right)^{2}}
$$



Finding the $\qquad$ between two endpoints is the same as finding the $\qquad$ of a segment.
a) Find the distance between the endpoints of $\overline{X Y}$ given $\mathrm{X}(1,7)$ and $\mathrm{Y}(-2,3)$.
b) Find the distance between the endpoints of $\overline{\mathrm{AB}}$ given $\mathrm{A}(-2,2)$ and $\mathrm{B}(3,-10)$.
c) Find the length of $\overline{\mathrm{CD}}$ given $\mathrm{C}(2,3)$ and $\mathrm{D}(4,-1)$.
d) Find the length of $\overline{\mathrm{QP}}$ given $\mathrm{Q}(7,-1)$ and $\mathrm{P}(-2,6)$.

