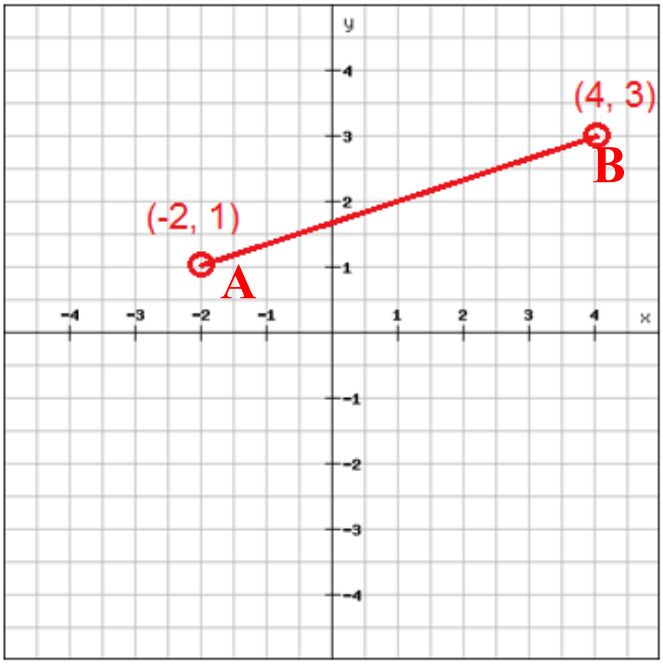
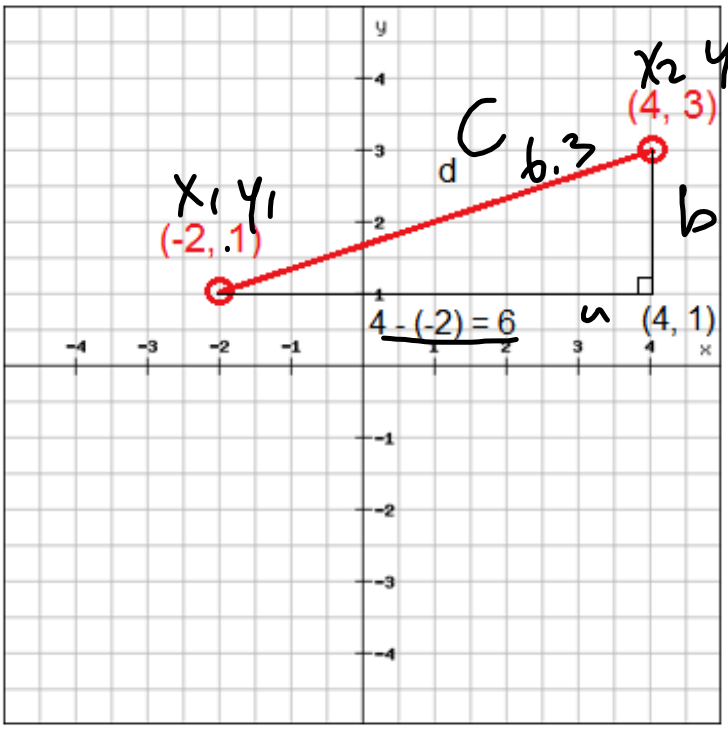
Determine the distance





Reminder!!

$h^2 = a^2 + b^2$

$h^2 = 6^2 + 2^2$

$h^2 = 36 + 4$

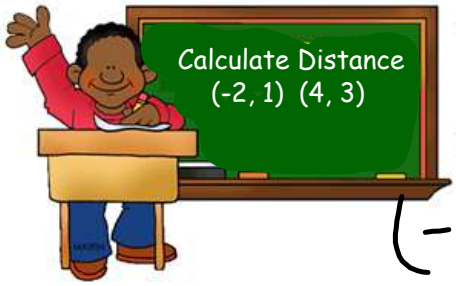
$h^2 = 40$

$\sqrt{h^2} = \sqrt{40}$

$h = 6.3$ units

6x6 2x2

BEDMAS



Distance Formula

$(-2, 1)$ $(4, 3)$

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

Calculate the distance between (-2, 1) and (4, 3).

$d = \sqrt{(4 - (-2))^2 + (3 - 1)^2}$
$d = \sqrt{(4 + 2)^2 + (2)^2}$
$d = \sqrt{(6)^2 + 4}$
$d = \sqrt{36 + 4}$
$d = \sqrt{40}$
$d = 6.3$ units

Ans.

Calculate the distance between (-9, 4) and (13, -5)

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$d = \sqrt{(13 - (-9))^2 + (-5 - 4)^2}$$
$$d = \sqrt{(22)^2 + (-9)^2}$$
$$d = \sqrt{484 + 81}$$
$$d = \sqrt{565}$$
$$d = 23.8 \text{ units}$$

Find the distance between (2, 3) and (6, 8).

x_1 y_1

x_2 y_2

Let $x_1 = 2$, $x_2 = 6$, $y_1 = 3$, and $y_2 = 8$.

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$d = \sqrt{(6 - 2)^2 + (8 - 3)^2}$$

B
E
A

$$d = \sqrt{4^2 + 5^2}$$

$$d = \sqrt{16 + 25}$$

$$d = \sqrt{41} \text{ or } 6.4 \text{ units}$$

Midpoint Formula

Calculating the midpoint between two points.

$$\left(\frac{x_2 + x_1}{2}, \frac{y_2 + y_1}{2}\right)$$

Calculate the midpoint between (7, 3) & (-2, -5)

x_1 y_1 x_2 y_2

$$\left(\frac{x_2 + x_1}{2}, \frac{y_2 + y_1}{2}\right)$$

$$\left(\frac{-2 + 7}{2}, \frac{-5 + 3}{2}\right)$$

$$\left(\frac{5}{2}, \frac{-2}{2}\right)$$

$$(2.5, -1)$$

Add # on numerator first
② Then divide.

Find the midpoint of (5, 1) and (−1, 5).

x_1 y_1 x_2 y_2

Let $x_1 = 5, x_2 = -1, y_1 -1$, and $y_1 = 5$.

$$\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$$ *Midpoint Formula*

Add

$$\left(\frac{5 + -1}{2}, \frac{1 + 5}{2}\right)$$ *Substitute.*

Divide

$$\left(\frac{4}{2}, \frac{6}{2}\right)$$ *Add.*

(2, 3) is the midpoint

$80 \div 40 \div 20 \div 10 \div 5$

$80 \rightarrow 2 \times 2 \times 2 \times 2 \times 5$ Prime factorization

$50 \rightarrow 2 \times 5 \times 5$

$50 \div 25 \div 5$

GCF

GCF 2×5

$= 10$

$80 \Rightarrow 2 \times 2 \times 2 \times 2 \times 5 \Rightarrow 2^4 \cdot 5^1$

$50 \Rightarrow 2 \times 5 \times 5 \Rightarrow 2^1 \cdot 5^2$

$2^4 \cdot 5^2$

$16 \cdot 25$

LCM: 400

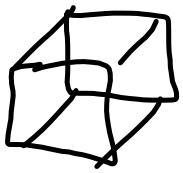
Word problems

→ largest → GCF

→ smallest → LCM

3-5

Cubes.

V= 

□ => Square roots (Side length)

V => Cube root. => Cube.

Unit #1 ⇒ To be completed
for Tuesday Jan 13//15.