Key

Practice Quiz 1

Distance and Midpoint Formulas

$d = \sqrt{(x_2-x_1)^2+(y_2-y_1)^2}$ $\quad M = \left(\frac{x_2+x_1}{2}, \frac{y_2+y_1}{2}\right)$

1) Given the points $(2,4)$ & $(5,7)$ Find the midpoint and distance.

$x_1 y_1$ $\quad x_2 y_2$

distance

$d = \sqrt{(5-2)^2+(7-4)^2}$

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

$d = \sqrt{9+9}$

$d = \sqrt{18}$

$d = 3\sqrt{2}$ units

Midpoint

$M = \left(\frac{5+2}{2}, \frac{7+4}{2}\right)$

$M\left(3\frac{1}{2}, 5\frac{1}{2}\right)$

2) Given the points $(-2,3)$ & $(8,-1)$ Find the midpoint and distance.

$x_1 y_1$ $\quad x_2 y_2$

distance

$d = \sqrt{(8--2)^2+(-1-3)^2}$

$d = \sqrt{(10)^2+(-4)^2}$

$d = \sqrt{100+16}$

$d = \sqrt{116}$ units

$d = 2\sqrt{29}$ units

Midpoint

$M\left(\frac{8+-2}{2}, \frac{-1+3}{2}\right)$

$M(3,1)$

3) Given the points $(-4,-3)$ & $(6,-5)$ Find the midpoint and distance.

$x_1 y_1$ $\quad x_2 y_2$

$d = \sqrt{(6--4)^2+(-5--3)^2}$

$d = \sqrt{(10)^2+(-2)^2}$

$d = \sqrt{100+4}$

$d = \sqrt{104}$

$d = 2\sqrt{26}$ units

$M\left(\frac{6+-4}{2}, \frac{-5+-3}{2}\right)$

$M(1,-4)$

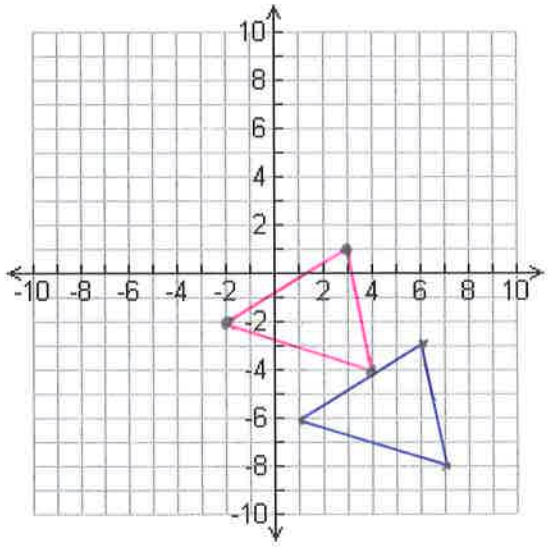
Key

Practice Quiz 2

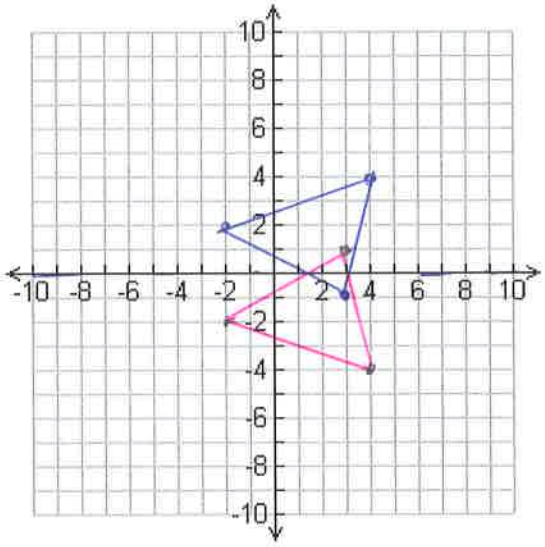
Transformations: Translations and Reflections

Original
Transformed

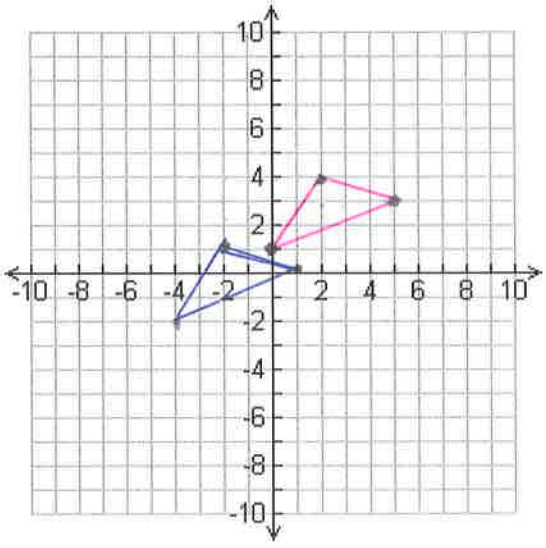
1) Draw a triangle with coordinates (3,1) (-2,-2) (4,-4)
Translate the triangle (x,y) →(x+3, y – 4)



2) Draw a triangle with coordinates (3,1) (-2,-2) (4,-4)
Reflect the triangle across the X-axis



3) Draw a triangle with coordinates (0,1) (2,4) (5,3)
Translate the triangle (x,y) →(x – 4, y – 3)



4) Draw a triangle with coordinates (0,1) (2,4) (5,3)
Reflect the triangle across the line x = – 1