Level 1

Name: _____ Date: _____ Hour: _____

1. Find the distance between the points to the nearest tenth:

a) C(12,6) and D(-8,18)

b) X(-3,-4) and Y(5,5)

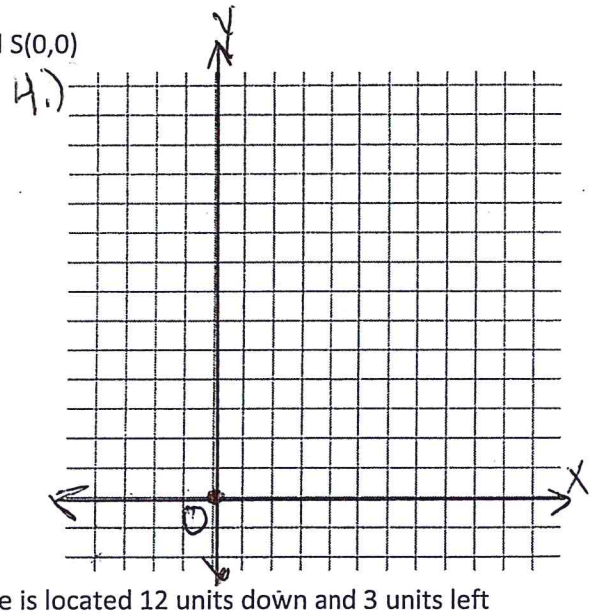
2. Find the length of $\overline{PQ}$. Leave your answer in the simplest radical form
P(-5,-3) and Q(-3,-5)

Level 2

$\overline{XY}$ $\overline{XZ}$

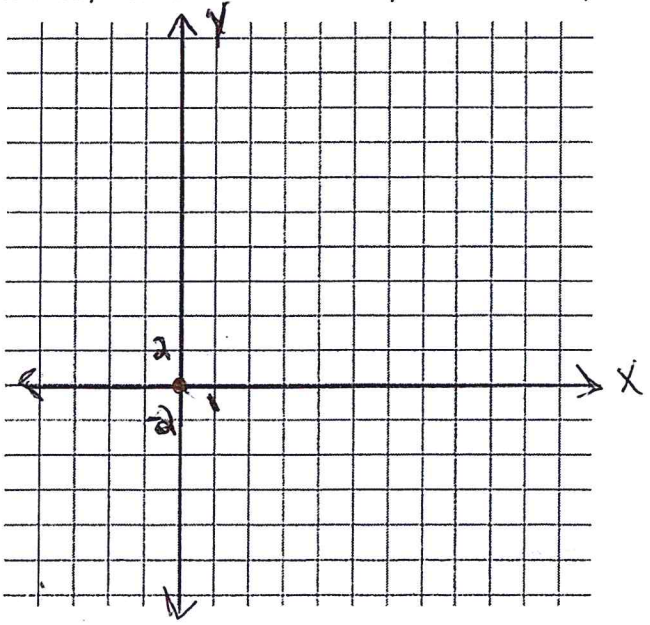
3. A boat at X(5, -2) needs to travel to Y(-6,9) or Z(17, -3). Which point is closer? What is the distance to the closer point? X_1 Y_1

4. Quadrilateral PQRS has the same vertices: P(-4,4), Q(6,6), R(10,2) and S(0,0)
   a) What is the perimeter of the quadrilateral PQRS?
   b) What is the difference between the lengths of its diagonals?

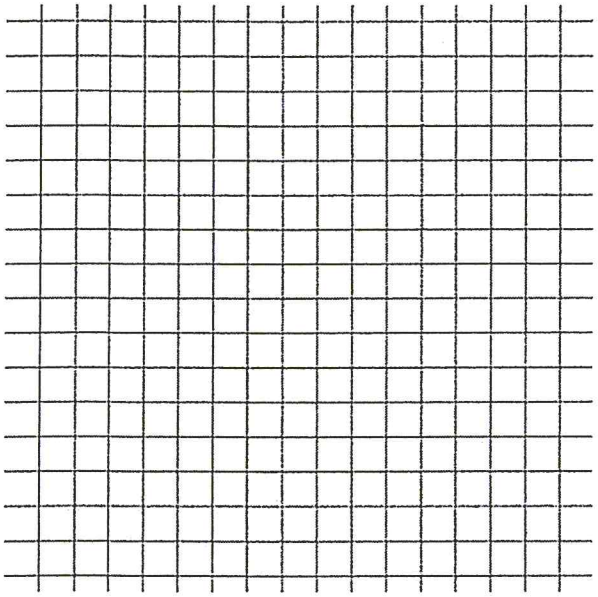


Level 3

5. If Sam lives at the location (-2, 8), Jeni lives at (1,10) and Molly's house is located 12 units down and 3 units left from zero (origin), approximately how many miles less would Molly walk if she walks directly to Sam's house, rather than first to Jeni's house and then to Sam's house?



6. In a xy-coordinate plane, what is the shortest distance between the point with coordinates (1, 3) and the line with the equation x=-2?



Level 4

7. If point R has coordinates (x, y) and point S has coordinates (x+1, y+1), what is the distance between point R and point S?

A. $\sqrt{2}$
B. 2
C. $\sqrt{x^2+y^2}$
D. x^2+y^2+2
E. x+y+1

8. Two ships leave a port at the same time. One ship moves at 20 miles per hour and sails 2 hours north, and then 1 hour east. The other ship moves at 25 miles per hour and sails 2 hours east, and then one hour north. Which of the following is an expression for the number of miles apart the ships are 3 hours after they leave the port?

A. $3(25-20)$
B. $\sqrt{(50-20)^2+(25-40)^2}$
C. $\sqrt{(50-20)^2+(25+40)^2}$
D. $\sqrt{(50+20)^2+(25-40)^2}$
E. $\sqrt{(3*20)^2+(3*40)^2}$