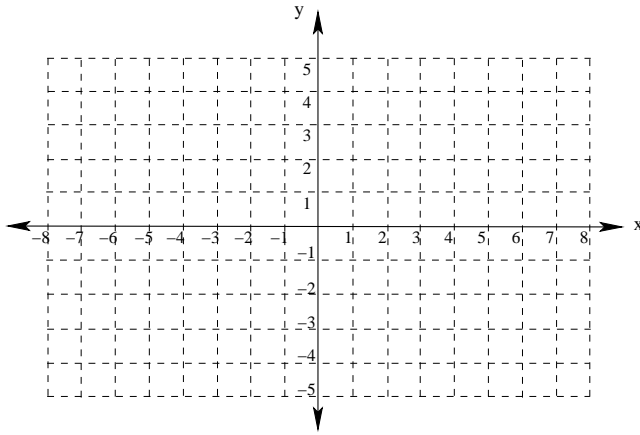


Distance, Midpoints, Graphing Activity

Instructions: Work the following problems in groups of 3-4 students.

Given the points $P : (2, -3)$, $Q : (-4, 5)$, $R : (0, -3)$, $S : (2, 0)$

1. Graph P, Q, R , and S on the axes provided



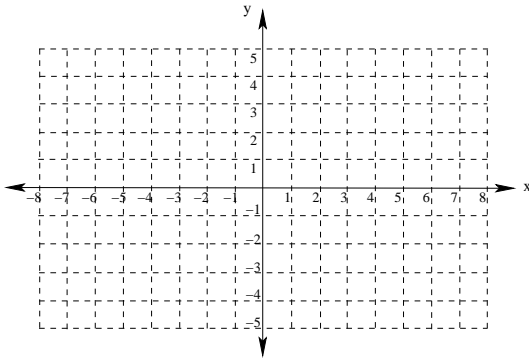
2. Find $d(P, Q)$

3. Find the coordinates of the midpoint M of \overline{PQ} and graph it on the axes above.

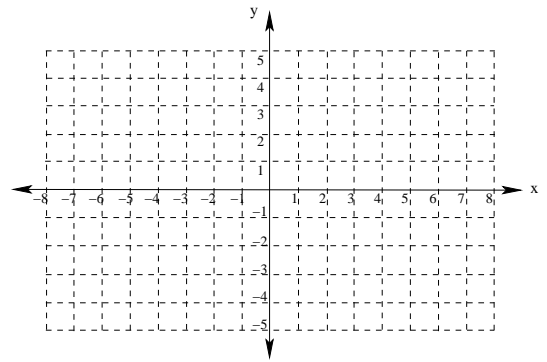
4. Find the Perimeter of $\triangle PRS$.

5. Sketch the graph of each of the following functions by making a table of values and plotting points.

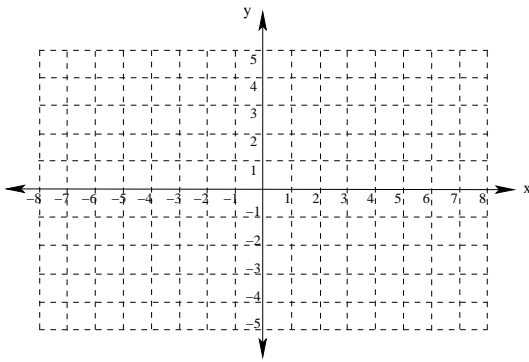
(a) $y = 2x - 3$



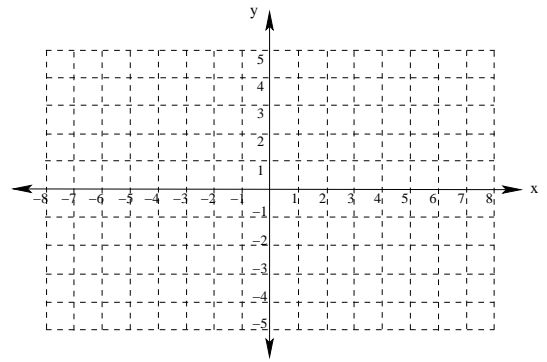
(c) $y = \frac{1}{2}x^2$



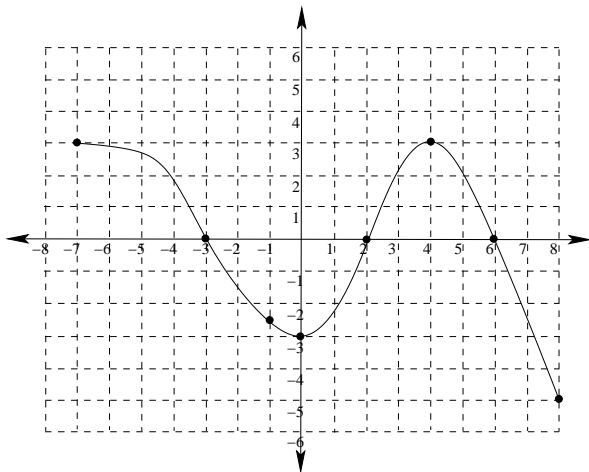
(b) $y = |x + 1|$



(d) $y = (x - 2)^2$



6. Answer the following questions based on the graph shown below:



(a) Find the x -intercept(s) of this graph.

(b) Find the y -intercept(s) of this graph.

(c) Find y when $x = 4$

(d) Find y when $x = -1$

(e) Find x when $y = -5$