

**King Fahd University of Petroleum and Minerals**  
**Prep-Year Math Program**  
**Math (001)-Term (141)**  
**Recitation (2. 1)**

**Question1.** Which of the following three points are:

- a) Collinear
- b) Vertices of a right triangle
- I.  $\{(5, 7), (3, 9), (6, 8)\}$
- II.  $\{(-2, -5), (1, 7), (3, 15)\}$

**Answer:**

**(I):** The points  $D, E$  and  $F$  are **not** collinear.  
 The points  $D, E$  and  $F$  **are vertices** of a right triangle.

**(II):** The points  $A, B$  and  $C$  **are collinear**.  
 The points  $A, B$  and  $C$  are not vertices of a right triangle.

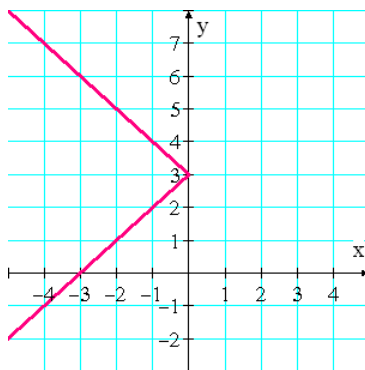
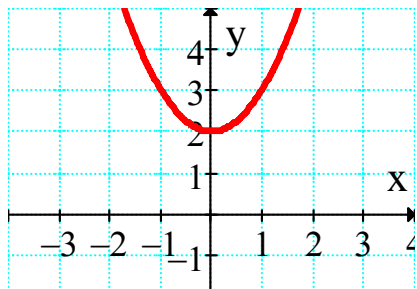
**Question2.** Sketch the graph of the equations by plotting points that satisfy the equations

- a)  $y - x^2 = 2$
- b)  $x + |y - 3| = 0$

**Answer:**

**(a):**  $y = x^2 + 2$

**(b):**  $x + |y - 3| = 0$



**Question3.** Find the distance between the points  $P(2x, -7x)$  and  $Q(-2x, -4x)$

where  $x < 0$       **Answer:**  $-5x$

**Question4.** The distance between the point  $(-1, 3)$  and the midpoint of the line segment with endpoint  $(\frac{7}{2}, -\frac{16}{3})$  and  $(\frac{5}{2}, -\frac{14}{3})$  is equal to

- A)  $4\sqrt{5}$
- B)  $2\sqrt{5}$
- C)  $5\sqrt{5}$
- D)  $3\sqrt{5}$
- E)  $\sqrt{5}$