Answer the following:

1) In which quadrant of the number plane does each point lie?

   a. $(-4, 7)$ c. $(2, -8)$

   b. $(9, 12)$ d. $(-4, -13)$

2) Determine by substitution whether each point lies on the line $y = 4x + 7$.

   a. $(3, 14)$ c. $(-2, -1)$

   b. $(0, 7)$ d. $\left(\frac{1}{2}, 15\right)$

3) Find the value of k if $(k, 7)$ lies on the line $y = 3x - 5$.

4) State whether the following lines increase or decrease from left to right.

   a. $y = 4x$ c. $y = 5 - x$

   b. $y = -2x + 1$ d. $y = \frac{x}{2} - 3$

5) State the y-intercept of each line.

   a. $y = x + 5$ c. $y = 8 - x$

   b. $y = 3x - 2$ d. $y = \frac{x}{3} + 4$

6) Write down the co-ordinates of the point of intersection of the lines $y = 1$ and $x = -2$.

7) Find the equation of the line that passes through the point:

   a. $(5, 2)$ and is parallel to the y-axis

   b. $(-1, -3)$ and is parallel to the x-axis

8) a. Show by substitution that $B(3, 7)$ lies on both the lines $y = 3x - 2$ and $y = 4x - 5$.

   b. What does this tell you about the lines?

Answer Key

1) a. II
   b. I
   c. IV
   d. III
2) a. no
   b. yes
   c. yes
   d. no
3) $k = {}^2\!/_3$
4) a. increase
   b. decrease
   c. decrease
   d. increase
5) a. 5
   b. -2
   c. 8
   d. 4
6) $(-2, 1)$
7) a. $x = 5$
   b. $y = -3$
8) a. 7=3(3)-2=7   7=4(3)-5=7
   b. the lines intersect at (3,7)