4.1 Exercise Set

1. In the equation $A = 3p$, determine A when p is:

a) 3 _____ **b)** 5 _____

c) 11 _____ **d)** 17 _____

e) -6 _____ **f)** $x + 2$ _____

2. In the equation $S = 4n - 2$, determine S when n is:

a) 4 _____ **b)** 9 _____

c) 18 _____ **d)** 23 _____

e) 41 _____ **f)** $x - 1$ _____

3. Determine the common difference in each linear pattern.

a) 2, 5, 8, 11, … _____ **b)** 6, 10, 14, 18 … _____

c) $-4, -1, 2, 5, \ldots$ _____ **d)** 15, 10, 5, 0, … _____

e) $-5, -11, -17, -23, \ldots$ _____ **f)** $-8, -3, 2, 7, \ldots$ _____

g) $\sqrt{2},\ 2\sqrt{2},\ 3\sqrt{2},\ 4\sqrt{2}, \ldots$ _____ **h)** $\sqrt{2} + \sqrt{3},\ \sqrt{2},\ \sqrt{2} - \sqrt{3}, \ldots$ _____

4. Determine the next three numbers in each linear pattern.

a) 2, 5, 8, 11, … _____, _____, _____ **b)** 6, 10, 14, 18, … _____, _____, _____

c) $-4, -1, 2, 5, \ldots$ _____, _____, _____ **d)** 15, 10, 5, 0, … _____, _____, _____

e) $-5, -11, -17, -23, \ldots$ _____, _____, _____ **f)** $-8, -3, 2, 7, \ldots$ _____, _____, _____

g) 11, 8, 5, 2, … _____, _____, _____ **h)** $-4.1, -3.7, -3.3, \ldots$ _____, _____, _____

5. Write an equation relating t to n. (It must work for every pair of values)

a)

n	1	2	3	4
t	2	5	8	11

b)

n	1	2	3	4
t	6	10	14	18

c)

n	1	2	3	4
t	-4	-1	2	5

d)

n	1	2	3	4
t	15	10	5	0

e)

n	1	2	3	4
t	-5	-11	-17	-23

f)

n	1	2	3	4
t	1	1.5	2	2.5

6. Determine the 50th term of the following linear pattern.

a) 2, 5, 8, 11, …

b) 6, 10, 14, 18, …

c) $-4, -1, 2, 5, \ldots$

d) 15, 10, 5, 0, …

e) $-5, -11, -17, -23, \ldots$

f) $0, \frac{1}{2}, 1, \frac{3}{2}, \ldots$

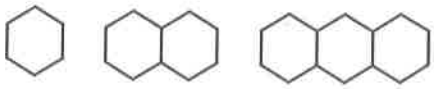
7. In the following patterns, determine the number of sides needed to produce 10 polygons.

a)

b)

c)

d)



4.2 Exercise Set

1. Fill in the blanks using $<$, or $>$.

a) If a point (x, y) is in quadrant I, then x ___ 0, and y ___ 0.

b) If a point (x, y) is in quadrant II, then x ___ 0, and y ___ 0.

c) If a point (x, y) is in quadrant III, then x ___ 0, and y ___ 0.

d) If a point (x, y) is in quadrant IV, then x ___ 0, and y ___ 0.

2. Fill in the blanks.

a) If $xy > 0$, then the point (x, y) is either in quadrant _____ or quadrant _____ .

b) If $xy < 0$, then the point (x, y) is either in quadrant _____ or quadrant _____ .

3. Without plotting, determine which quadrant the points are found in.

a) $(4, -2)$ _____ **b)** $(6, 3)$ _____

c) $(-1, 3)$ _____ **d)** $\left(-2, -\frac{3}{2}\right)$ _____

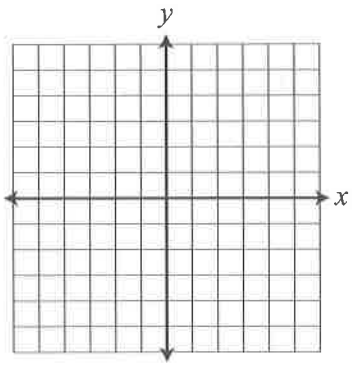
4. Plot the points on the grid provided.

A $(-3, 1)$ B $(-4, -2)$

C $(-5, 0)$ D $(0, 2)$

E $(3, -5)$ F $(4, 3)$

G $(4, 0)$ H $(0, -4)$



5. Find the coordinates of each point.

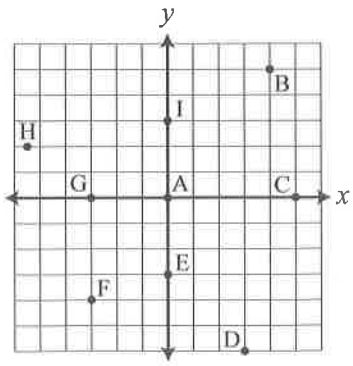
A (,) B (,)

C (,) D (,)

E (,) F (,)

G (,) H (,)

I (,)



6. Determine whether the given ordered pair is a solution of the equation.

a) $(2, 7)$; $y = 3x + 1$ y / n

b) $(-2, -1)$; $y = -2x + 3$ y / n

c) $(6, 5)$; $y = \frac{2}{3}x + 1$ y / n

d) $(-8, 1)$; $y = -\frac{3}{4}x - 5$ y / n

e) $(3, 0)$; $2x - 3y = 6$ y / n

f) $(3, 0)$; $2x + 3y = 6$ y / n

7. Determine the missing ordered pair values for the given equations.

a) $y = -\frac{3}{4}x + 2$

x	y
0	
	0
4	

b) $y = 3x - 6$

x	y
0	
	0
	6

c) $y = -\frac{3}{4}x - \frac{5}{2}$

x	y
0	
	0
−6	

d) $y = \frac{8}{3}x - 8$

x	y
0	
	0
	4

e) $y = -2x$

x	y
0	
	0
−3	

f) $y = -2$

x	y
−3	
0	
4	