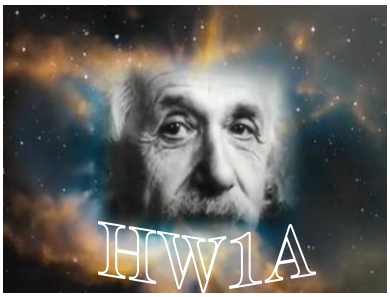

Find the length of $\overline{AB}$ and the coordinates of the midpoint of $\overline{AB}$.

1) A(1, 0), B(7, 8)

2) A(-8, -3), B(7, 5)

3) A(-2, -1), B(4, 9)

4) $A\left(\frac{1}{2},\frac{9}{2}\right)$, $B\left(-2,-\frac{3}{2}\right)$

5) A(1.7, 5.7), B(-2.3, 5.7)

6) A(-6, 8), B(-1, 3)

Determine which of the following points lie on the graph of the linear equation given.

7) $3x - 2y = 15$

a) (9, 6) b) (8, 4) c) $\left(-\frac{4}{3},-\frac{19}{2}\right)$

d) (3.4, -3.2) e) (-9, -22)

8) $-5x + 4y = 18$

a) (-1.2, 3.0) b) $\left(3,-\frac{3}{4}\right)$ c) (-18, 24)

d) (-6, -3) e) (3.6, 9)

In exercises 9 and 10, graph each equation. Label the origin and the x- and y-intercepts as L, O, and G, respectively. Find the area of ΔLOG.

9) $3x - 2y = 6$

10) $4x + 3y = 24$

In exercise 11, graph both equations. Label the origin, the intersection point and y- intercept of the second equation as R, A, T respectively. Find area of ΔRAT.

11) $y + x = 0$
$6x - 3y = -9$

Solve the systems of equations using whatever method seems appropriate. Sketch the graphs of the equations and label the intersection point.

12) $3x - 5y = 9$
$x + y = 3$

13) $2x + 3y = 15$
$4x - 9y = 3$

14) $x - 3y = 4$
$5x + y = -8$

15) $-2x - 6y = 18$
$x - 3y = 6$

16) Plot Q(1,7), U(3,5), A(4,-1) & D(2,1). Use the distance formula to show the opposite sides of quadrilateral QUAD are equal in length. What kind of figure is QUAD?

17) Plot B(-6,3), O(-1,6), X(2,1) & Y(-3,-2). Use the distance formula to show that quadrilateral BOXY is a square (and not a rhombus). ***Hint:*** showing all four sides are equal in length is not enough proof.

18) Plot the points A(-6,7), B(6,3) & C(-2,-1). Show that $(BC)^2 + (AC)^2 = (AB)^2$. What can you conclude about $\angle C$?

1) 10; (4, 4)
2) 17; (-1/2, 1)
3) $2\sqrt{34}$; (1, 4)
4) 13/2; (-3/4, 3/2)
5) 4; (-0.3, 5.7)
6) $5\sqrt{2}$; (-3.5, 5.5)
7) a, c
8) a, d, e
9) area = 3
10) area = 24
11) area = 1.5
12) (3, 0)
13) (24/5, 9/5)
14) (-5/4, -7/4)
15) (-3/2, -5/2)

9-15) graphs: See Mr. Paull

16-18) proofs: See Mr. Paull