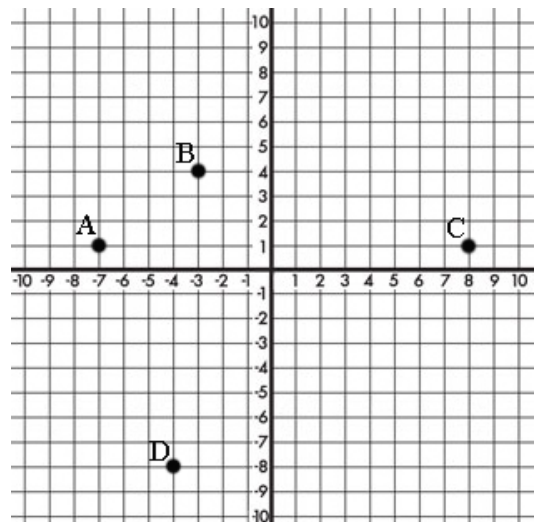
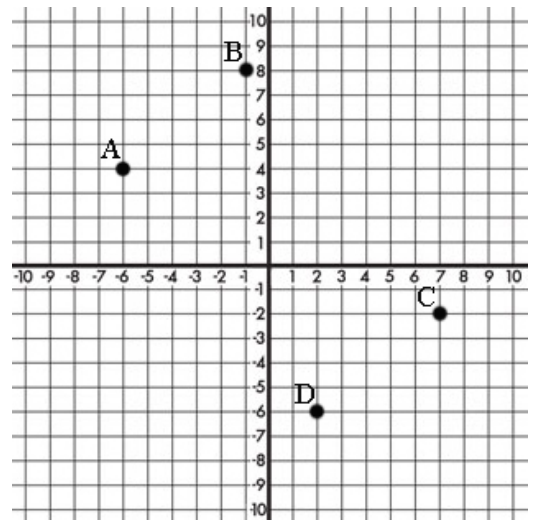
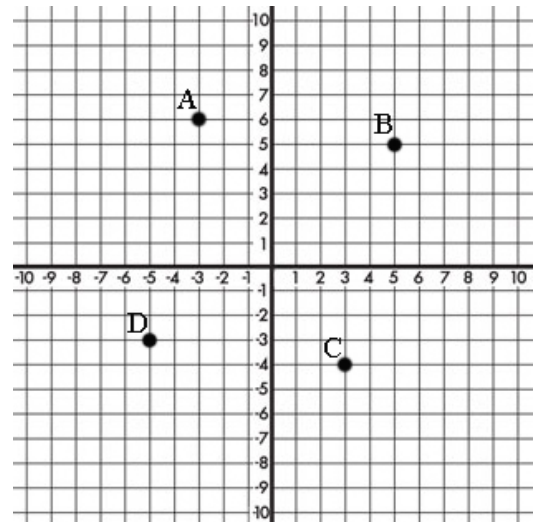


Geometry Homework #4 – Answer Key

- 1) $x = 8$
- 2) $x = 42$
- 3) $x = 13\sqrt{3}$
- 4) $\frac{27}{4}$ or 6.75 feet
- 5) $x = 7$
- 6) $x = 2\sqrt{39}$
- 7) $x = 16$, 58 degrees and 122 degrees
- 8) AB: Midpoint = $(1, \frac{11}{2})$, Distance = $\sqrt{65}$ Slope = $-\frac{1}{8}$
 BC: Midpoint = $(4, \frac{1}{2})$, Distance = $\sqrt{85}$ Slope = $\frac{9}{2}$
 CD: Midpoint = $(-1, -\frac{7}{2})$, Distance = $\sqrt{65}$ Slope = $-\frac{1}{8}$
 DA: Midpoint = $(-4, \frac{3}{2})$, Distance = $\sqrt{85}$ Slope = $\frac{9}{2}$
 ABCD is a parallelogram
- 9) $x = 18\sqrt{5}$
- 10) AB: Midpoint = $(-\frac{7}{2}, 6)$, Distance = $\sqrt{41}$ Slope = $\frac{4}{5}$
 BC: Midpoint = $(3, 3)$, Distance = $2\sqrt{41}$ Slope = $-\frac{5}{4}$
 CD: Midpoint = $(\frac{9}{2}, -4)$, Distance = $\sqrt{41}$ Slope = $\frac{4}{5}$
 DA: Midpoint = $(-2, -1)$, Distance = $2\sqrt{41}$ Slope = $-\frac{5}{4}$
 ABCD is a rectangle
- 11) 90 degrees $x = -22$ and $y = 28$
- 12) AB: Midpoint = $(-5, \frac{5}{2})$, Distance = 5 Slope = $\frac{3}{4}$
 BC: Midpoint = $(\frac{5}{2}, \frac{5}{2})$, Distance = $\sqrt{130}$ Slope = $-\frac{3}{11}$
 CD: Midpoint = $(2, -\frac{7}{2})$, Distance = 15 Slope = $\frac{3}{4}$
 DA: Midpoint = $(-\frac{11}{2}, -\frac{7}{2})$, Distance = $3\sqrt{10}$ Slope = $-\frac{3}{1}$
 ABCD is a trapezoid



13) $90\sqrt{2}$ feet

14) 107 degrees and 73 degrees, $x = 19, y = 13, a = -20$

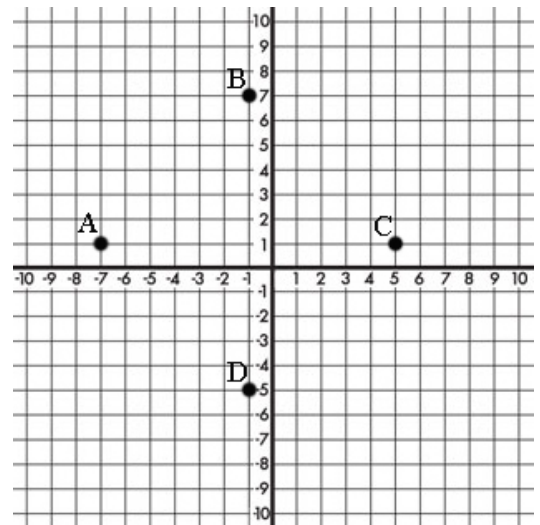
15) AB: Midpoint = $(-4, 4)$, Distance = $6\sqrt{2}$ Slope = $\frac{1}{1}$

BC: Midpoint = $(2, 4)$, Distance = $6\sqrt{2}$ Slope = $\frac{-1}{1}$

CD: Midpoint = $(2, -2)$, Distance = $6\sqrt{2}$ Slope = $\frac{1}{1}$

DA: Midpoint = $(-4, -2)$, Distance = $6\sqrt{2}$ Slope = $\frac{-1}{1}$

ABCD is a square



16) 137 degrees and 43 degrees, $x = 24, y = -17, a = 7$

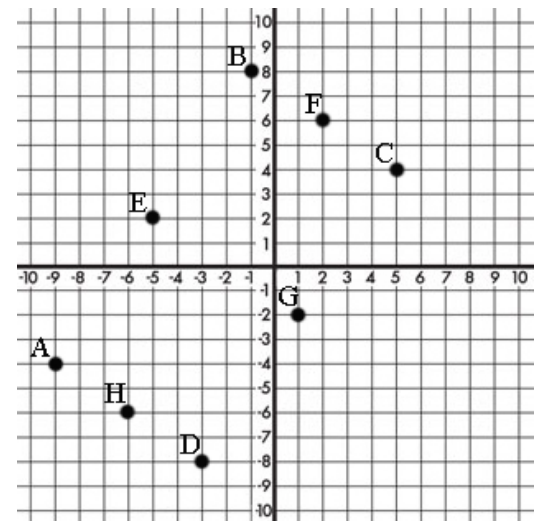
17) AB: Midpoint = $(-5, 2)$, EF: Distance = $\sqrt{65}$ Slope = $\frac{4}{7}$

BC: Midpoint = $(2, 6)$, FG: Distance = $\sqrt{65}$ Slope = $\frac{8}{1}$

CD: Midpoint = $(1, -2)$, GH: Distance = $\sqrt{65}$ Slope = $\frac{4}{7}$

DA: Midpoint = $(-6, -6)$, HE: Distance = $\sqrt{65}$ Slope = $\frac{8}{1}$

EFGH is a parallelogram



18) 340 feet

19) ABC is an acute triangle

AB: Midpoint = $(-1, 4)$

BC: Midpoint = $(3, -1)$

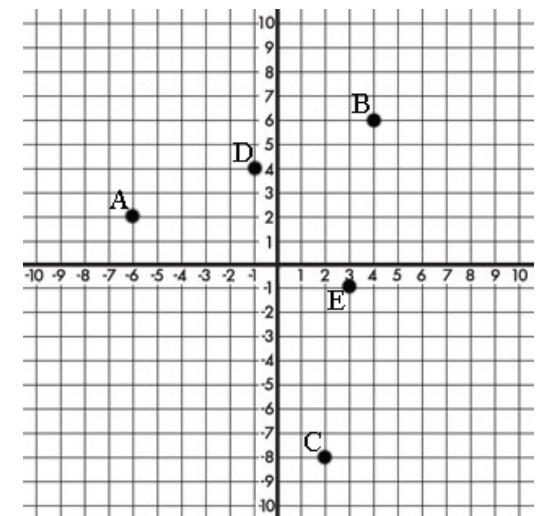
AD: Distance = $\sqrt{29}$ Slope = $\frac{2}{5}$

DE: Distance = $\sqrt{41}$ Slope = $\frac{-5}{4}$

EC: Distance = $5\sqrt{2}$ Slope = $\frac{7}{1}$

CA: Distance = $2\sqrt{41}$ Slope = $\frac{-5}{4}$

ADEC is a trapezoid



20) $x = 5$