

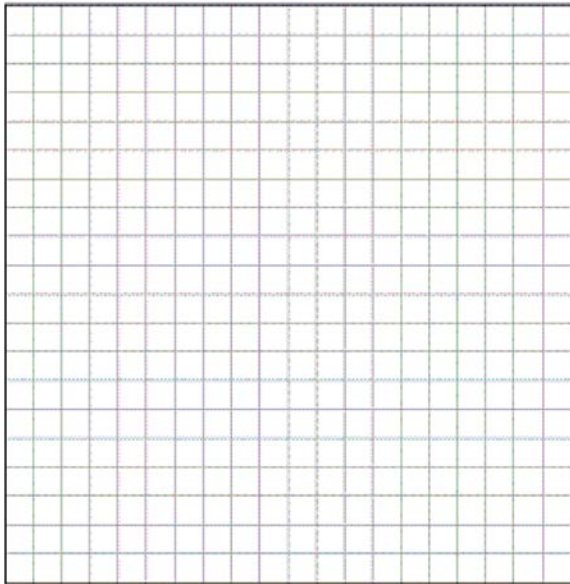
G.CO.A.1: Midpoint 1

- What are the coordinates of the midpoint of the line segment with endpoints $(2, -5)$ and $(8, 3)$?
1) $(3, -4)$ 2) $(3, -1)$ 3) $(5, -4)$ 4) $(5, -1)$
- The endpoints of \overline{CD} are $C(-2, -4)$ and $D(6, 2)$.
What are the coordinates of the midpoint of \overline{CD} ?
1) $(2, 3)$ 2) $(2, -1)$ 3) $(4, -2)$ 4) $(4, 3)$
- A line segment has endpoints $A(7, -1)$ and $B(-3, 3)$.
What are the coordinates of the midpoint of \overline{AB} ?
1) $(1, 2)$ 2) $(2, 1)$ 3) $(-5, 2)$ 4) $(5, -2)$
- The coordinates of A are $(-9, 2)$ and the coordinates of G are $(3, 14)$. What are the coordinates of the midpoint of \overline{AG} ?
1) $(-3, 8)$ 2) $(-6, 6)$ 3) $(-6, 16)$ 4) $(-21, -10)$
- Line segment AB has endpoints $A(2, -3)$ and $B(-4, 6)$. What are the coordinates of the midpoint of \overline{AB} ?
1) $(-2, 3)$ 2) $\left(-1, 1\frac{1}{2}\right)$ 3) $(-1, 3)$ 4) $\left(3, 4\frac{1}{2}\right)$
- What is the midpoint of the line segment that joins points $(4, -2)$ and $(-2, 5)$?
1) $\left(1, \frac{3}{2}\right)$ 2) $\left(\frac{3}{2}, 3\right)$ 3) $\left(1, \frac{7}{2}\right)$ 4) $\left(2, \frac{3}{2}\right)$
- If a line segment has endpoints $A(3x + 5, 3y)$ and $B(x - 1, -y)$, what are the coordinates of the midpoint of \overline{AB} ?
1) $(x + 3, 2y)$ 2) $(2x + 2, y)$ 3) $(2x + 3, y)$
4) $(4x + 4, 2y)$
- Point M is the midpoint of \overline{AB} . If the coordinates of A are $(-3, 6)$ and the coordinates of M are $(-5, 2)$, what are the coordinates of B ?
1) $(1, 2)$ 2) $(7, 10)$ 3) $(-4, 4)$ 4) $(-7, -2)$
- The midpoint of \overline{AB} is $M(4, 2)$. If the coordinates of A are $(6, -4)$, what are the coordinates of B ?
1) $(1, -3)$ 2) $(2, 8)$ 3) $(5, -1)$ 4) $(14, 0)$
- Point M is the midpoint of \overline{AB} . If the coordinates of M are $(2, 8)$ and the coordinates of A are $(10, 12)$, what are the coordinates of B ?
1) $(6, 10)$ 2) $(-6, 4)$ 3) $(-8, -4)$ 4) $(18, 16)$
- M is the midpoint of \overline{AB} . If the coordinates of A are $(-1, 5)$ and the coordinates of M are $(3, 3)$, what are the coordinates of B ?
1) $(1, 4)$ 2) $(2, 8)$ 3) $(7, 1)$ 4) $(-5, 7)$
- The midpoint of \overline{AB} has coordinates of $(5, -1)$. If the coordinates of A are $(2, -3)$, what are the coordinates of B ?
1) $(8, 1)$ 2) $(8, -5)$ 3) $(7, 0)$ 4) $(3.5, -2)$

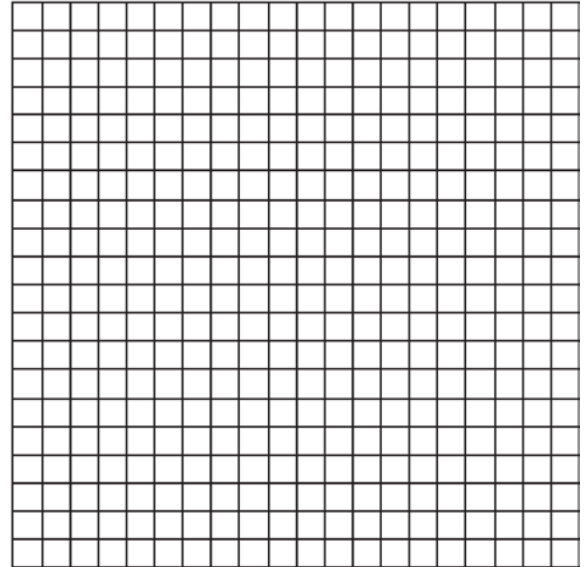
- 13 The midpoint of \overline{AB} is $(-1, 5)$ and the coordinates of point A are $(-3, 2)$. What are the coordinates of point B ?
- 1) $(1, 8)$ 2) $(1, 10)$ 3) $(0, 7)$ 4) $(-5, 8)$

- 14 A line segment on the coordinate plane has endpoints $(2, 4)$ and $(4, y)$. The midpoint of the segment is point $(3, 7)$. What is the value of y ?
- 1) 11 2) 10 3) 5 4) -2

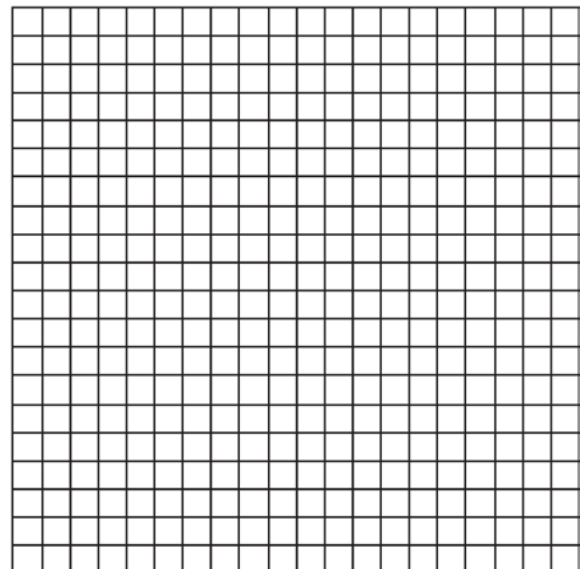
- 15 The midpoint M of line segment AB has coordinates $(-3, 4)$. If point A is the origin, $(0, 0)$, what are the coordinates of point B ? [The use of the accompanying grid is optional.]



- 16 The coordinates of the midpoint of \overline{AB} are $(2, 4)$, and the coordinates of point B are $(3, 7)$. What are the coordinates of point A ? [The use of the accompanying grid is optional.]



- 17 One endpoint of a line segment is $(6, 2)$. The midpoint of the segment is $(2, 0)$. Find the coordinates of the other endpoint. [The use of the grid is optional.]



G.CO.A.1: Midpoint 1 Answer Section

1 ANS: 4

$$M_x = \frac{2+8}{2} = 5. \quad M_y = \frac{-5+3}{2} = -1.$$

REF: 011502ge

2 ANS: 2

$$M_x = \frac{-2+6}{2} = 2. \quad M_y = \frac{-4+2}{2} = -1$$

REF: 080910ge

3 ANS: 2

$$M_x = \frac{7+(-3)}{2} = 2. \quad M_y = \frac{-1+3}{2} = 1.$$

REF: 011106ge

4 ANS: 1

$$M_x = \frac{-9+3}{2} = -3. \quad M_y = \frac{2+14}{2} = 8.$$

REF: 080624a

5 ANS: 2

$$M_x = \frac{2+(-4)}{2} = -1. \quad M_y = \frac{-3+6}{2} = \frac{3}{2}.$$

REF: fall0813ge

6 ANS: 1

$$M_x = \frac{4+(-2)}{2} = 1. \quad M_y = \frac{-2+5}{2} = \frac{3}{2}.$$

REF: 060822a

7 ANS: 2

$$M_x = \frac{3x+5+x-1}{2} = \frac{4x+4}{2} = 2x+2. \quad M_y = \frac{3y+(-y)}{2} = \frac{2y}{2} = y.$$

REF: 081019ge

8 ANS: 4

$$-5 = \frac{-3+x}{2}. \quad 2 = \frac{6+y}{2}$$

$$-10 = -3+x \quad 4 = 6+y$$

$$-7 = x \quad -2 = y$$

REF: 081203ge

9 ANS: 2

$$\frac{6+x}{2} = 4. \quad \frac{-4+y}{2} = 2$$

$$x = 2 \quad y = 8$$

REF: 011401ge

10 ANS: 2

$$2 = \frac{10+x}{2}. \quad 8 = \frac{12+y}{2}$$

$$4 = 10+x \quad 16 = 12+y$$

$$-6 = x \quad 4 = y$$

REF: 061505ge

11 ANS: 3

$$M_x = \frac{x_A + x_B}{2} \quad M_y = \frac{y_A + y_B}{2}$$

$$3 = \frac{-1 + x_B}{2}. \quad 3 = \frac{5 + y_B}{2}.$$

$$x_B = 7 \quad y_B = 1$$

REF: 080217a

12 ANS: 1

$$M_x = \frac{x_A + x_B}{2} \quad M_y = \frac{y_A + y_B}{2}$$

$$5 = \frac{2 + x_B}{2}. \quad -1 = \frac{-3 + y_B}{2}.$$

$$x_B = 8 \quad y_B = 1$$

REF: 010914a

13 ANS: 1

$$M_x = \frac{x_A + x_B}{2} \quad M_y = \frac{y_A + y_B}{2}$$

$$-1 = \frac{-3 + x_B}{2}. \quad 5 = \frac{2 + y_B}{2}.$$

$$x_B = 1 \quad y_B = 8$$

REF: 010718a

14 ANS: 2

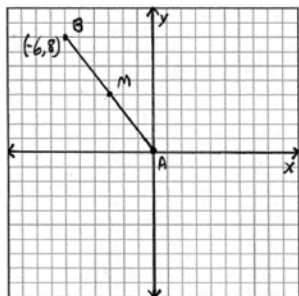
$$M_y = \frac{y_A + y_B}{2}$$

$$7 = \frac{4 + y_B}{2}$$

$$y_B = 10$$

REF: 080515a

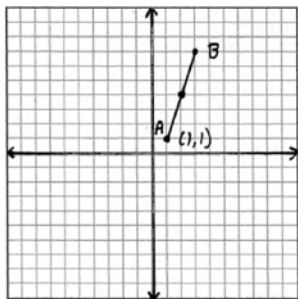
15 ANS:



(-6,8).

REF: 010021a

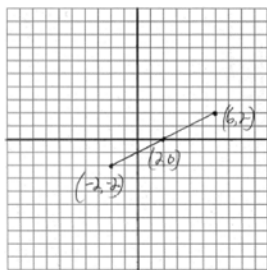
16 ANS:



(1,1).

REF: 060434a

17 ANS:



(-2,-2).

REF: 080834a