

## Worksheet: Translations

1. What is the result of translating the point  $(3,4)$  by 2 units right and 5 units down?
  - a.  $(1,9)$
  - b.  $(5,-1)$
  - c.  $(3,9)$
  - d.  $(5,1)$
2. If a point  $(x,y)$  is translated by  $(a,b)$ , what is the new position?
  - a.  $(x+a,y+b)$
  - b.  $(x-a,y-b)$
  - c.  $(x+a,y-b)$
  - d.  $(x-a,y+b)$
3. Translate the point  $(0,-3)$  by 4 units left and 2 units up.
  - a.  $(-4,5)$
  - b.  $(-4,-1)$
  - c.  $(4,-1)$
  - d.  $(4,5)$
4. Which translation moves every point 3 units up?
  - a. Add 3 to the y-coordinate.
  - b. Add 3 to the x-coordinate.
  - c. Subtract 3 from the y-coordinate.
  - d. Subtract 3 from the x-coordinate.
5. What is the image of  $(7,2)$  after a translation of  $(-2,6)$ ?
  - a.  $(9,8)$
  - b.  $(5,-4)$
  - c.  $(5,8)$
  - d.  $(9,-4)$
6. A triangle has vertices at  $(1,1), (4,1), (1,5)$ . What are the vertices after translating by  $(2,-3)$ ?
  - a.  $(3,-2), (6,-2), (3,2)$
  - b.  $(3,4), (6,4), (3,8)$
  - c.  $(1,4), (4,4), (1,8)$
  - d.  $(2,-2), (5,-2), (2,2)$
7. Which translation will move a point from  $(2,8)$  to  $(7,3)$ ?
  - a.  $(+5,+5)$
  - b.  $(+5,-5)$
  - c.  $(-5,-5)$
  - d.  $(-5,+5)$
8. Translate  $(-6,2)$  by 6 units right and 4 units down.
  - a.  $(0,6)$

- b. (-12,-2)
  - c. (0,-2)
  - d. (12,6)
9. A rectangle is translated so that each vertex  $(x,y)$  becomes  $(x+4,y-1)$ . What is the translation vector?
- a. (-4,1)
  - b. (4,1)
  - c. (4,-1)
  - d. (-4,-1)
10. If the point  $(5,-7)$  is translated by  $(-3,9)$ , where does it move to?
- a. (8,2)
  - b. (2,-16)
  - c. (2,2)
  - d. (8,-16)
11. What is the translation that moves  $(0,0)$  to  $(-4,3)$ ?
- a. (4,3)
  - b. (-4,-3)
  - c. (-4,3)
  - d. (4,-3)
12. Which point is the image of  $(9,-1)$  after translating by  $(-5,-2)$ ?
- a. (14,-3)
  - b. (4,-3)
  - c. (4,1)
  - d. (14,1)
13. A translation moves every point 8 units to the left. What is the translation vector?
- a. (0,8)
  - b. (-8,0)
  - c. (8,0)
  - d. (0,-8)
14. Translate the point  $(-2,-5)$  by  $(3,7)$ .
- a. (1,2)
  - b. (-5,-12)
  - c. (5,2)
  - d. (1,-2)
15. Which translation will move a point from  $(4,10)$  to  $(4,2)$ ?
- a. (0,8)
  - b. (8,0)
  - c. (0,-8)
  - d. (-8,0)