

**G.G.54: Translations: Define, investigate, justify, and apply isometries in the plane (rotations, reflections, translations, glide reflections)**

- 1 What is the image of the point  $(-5, 2)$  under the translation  $T_{3, -4}$ ?
  - 1)  $(-9, 5)$
  - 2)  $(-8, 6)$
  - 3)  $(-2, -2)$
  - 4)  $(-15, -8)$
- 2 The transformation  $T_{(-2, 3)}$  maps the point  $(7, 2)$  onto the point whose coordinates are
  - 1)  $(9, 5)$
  - 2)  $(5, 5)$
  - 3)  $(5, -1)$
  - 4)  $(-14, 6)$
- 3 The image of  $A(-1, 3)$  under the translation  $T_{2, 1}$  is
  - 1)  $(1, 4)$
  - 2)  $(-3, 2)$
  - 3)  $(-2, 3)$
  - 4)  $(0, 5)$
- 4 What is the image of point  $(2, 4)$  under the translation  $T_{-6, 1}$ ?
  - 1)  $(-4, 3)$
  - 2)  $(-4, 5)$
  - 3)  $(8, 3)$
  - 4)  $(8, 5)$
- 5 What is the image of  $(-2, 3)$  after the transformation  $T_{(3, -1)}$ ?
- 6 What is the image of the point  $(3, -4)$  under the translation  $T_{(-2, 0)}$ ?
- 7 Find the coordinates of the image of  $(-3, 4)$  under the transformation  $T_{-2, 3}$ .
- 8 Find the coordinates of  $P'$ , the image of  $P(-3, 4)$  under the translation  $T_{4, 1}$ .
- 9 Triangle  $ABC$  has vertices  $A(1, 3)$ ,  $B(0, 1)$ , and  $C(4, 0)$ . Under a translation,  $A'$ , the image point of  $A$ , is located at  $(4, 4)$ . Under this same translation, point  $C'$  is located at
  - 1)  $(7, 1)$
  - 2)  $(5, 3)$
  - 3)  $(3, 2)$
  - 4)  $(1, -1)$
- 10 A translation moves  $P(3, 5)$  to  $P'(6, 1)$ . What are the coordinates of the image of point  $(-3, -5)$  under the same translation?
  - 1)  $(0, -9)$
  - 2)  $(-5, -3)$
  - 3)  $(-6, -1)$
  - 4)  $(-6, -9)$
- 11 The image of point  $(-2, 3)$  under translation  $T$  is  $(3, -1)$ . What is the image of point  $(4, 2)$  under the same translation?
  - 1)  $(-1, 6)$
  - 2)  $(0, 7)$
  - 3)  $(5, 4)$
  - 4)  $(9, -2)$