Lesson 1 Skills Practice

Translations

Graph the image of the figure after the indicated translation.

1. 2 units left and 3 units up
2. 4 units right and 1 unit up
3. 1 unit left and 2 units down
4. 5 units right and 3 units down

Graph the figure with the given vertices. Then graph the image of the figure after the indicated translation and write the coordinates of its vertices.

5. triangle ABC with vertices A(—3, -1), B(—4, -4), and C(—1, -2) translated 4 units right and 1 unit up
6. triangle XYZ with vertices X(1, —2), Y(3, —5), and Z(4, 1) translated 5 units left and 3 units up
7. triangle EFG with vertices E(1, 4), F(—1, 1), and G(2, —1) translated 3 units left and 1 unit down
8. rhombus WXYZ with vertices W(—4, 3), X(—1, 1), Y(2, 3), and Z(—1, 5) translated 2 units right and 5 units down
9. rectangle QRST with vertices Q(—2, —4), R(—2, 1), S(—4, 1), and T(—4, —4) translated 3 units right and 3 units up
10. trapezoid BCDE with vertices B(2, —1), C(3, —3), D(—3, —3), and E(0, —1) translated 1 unit left and 4 units up
Lesson 1 Homework Practice

Translations

Draw the image of the figure after the indicated translation.

1. 3 units right and 2 units up

2. 5 units right and 3 units down

3. 2 units left and 1 unit up

4. 4 units left and 2 units down

Graph the figure with the given vertices. Then graph the image of the figure after the indicated translation, and write the coordinates of its vertices.

5. \(\triangle FGH\) with vertices \(F(1, 3), G(2, 4),\) and \(H(3, 2)\); translated 3 units left and 1 unit down

6. rectangle \(PQRS\) with vertices \(P(-4, -1), Q(0, 1), R(1, -1),\) and \(S(-3, -3)\) translated 2 units right and 3 units up

7. QUILTS The quilt design at the right is a traditional American design. Describe the minimum number of translations of the original pattern, A, needed to create the section shown. A total of 15 translations; Translate A: 8 inches right, 16 inches right, and 24 inches right. Then translate A: 8 inches up, 8 inches right and 8 inches up, 16 inches right and 8 inches up, and 24 inches right and 8 inches up. Then translate A: 16 inches up, 8 inches right and 16 inches up, 16 inches right and 16 inches up, and 24 inches right and 16 inches up. Then translate A: 24 inches up, 8 inches right and 24 inches up, 16 inches right and 24 inches up, and 24 inches right and 24 inches up.