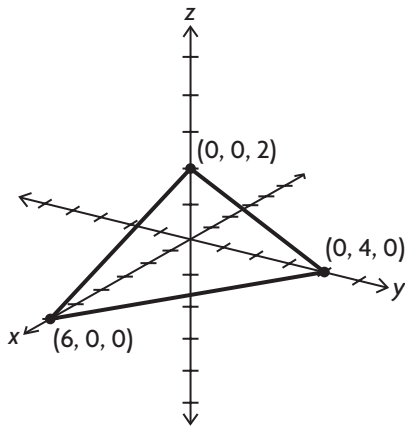


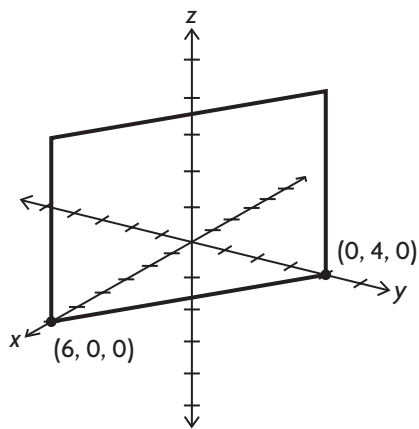
Chapter 8 Review Extra Practice Answers

- $\vec{r} = (0, 2, 3) + t(3, -3, 0), t \in \mathbf{R}$
 $x = 3t, y = 2 - 3t, z = 3, t \in \mathbf{R}$
 no symmetric equations
 - $\vec{r} = (0, 2, 3) + s(3, -3, 0) + t(2, -2, -2), s, t \in \mathbf{R}$
 $x = 3s + 2t, y = 2 - 3s - 2t, z = 3 - 2t, s, t \in \mathbf{R}$
- $x = 2$
- $\vec{r} = (2, 3, 3) + s(1, 0, 0) + t(0, 1, 0), s, t \in \mathbf{R}$
 $x = 2 + s, y = 3 + t, z = 3, s, t \in \mathbf{R}$
- Answers may vary. For example:
 $\vec{r} = (3, 0, 0) + s(3, 4, 0) + t(3, 0, -2), s, t \in \mathbf{R}$
 $x = 3 + 3s + 3t, y = 4s, z = -2t, s, t \in \mathbf{R}$
 - Answers may vary. For example:
 $\vec{r} = (3, 0, 0) + s(3, 4, 0), s \in \mathbf{R}$
 - Answers may vary. For example:
 $\vec{r} = (3, 0, 0) + s(3, 4, 0) + t(4, -3, 6), s, t \in \mathbf{R}$
- This plane contains the y -axis and goes through the point $(1, 0, 2)$.

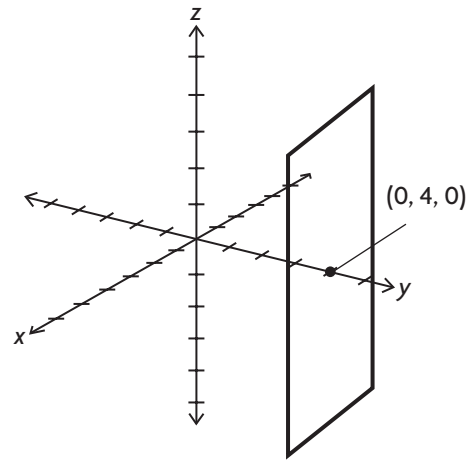
6. a.



b.



c.



7. a. $a = -\frac{5}{2}, b = -1$

8. a. yes

b. yes

c. $\vec{r} = (1, -1, 1) + s(0, 3, -5) + t(0, 5, 3), s, t \in \mathbf{R}$

9. 70.4° (or 109.6°)

10. a. and b.

11. no

12. a. $3x + y - 5z - 6 = 0$

b. $3x + y - 5z = 0$

13. $(3, 1)$