

# ANSWERS FOR 3.6

For use with pages 181–184

## 3.6 Guided Practice

2. When you come up with an impossible solution such as  $0 = 3$ , that tells you that the original system of equations is inconsistent. If there are many solutions, you would obtain an identity, such as  $0 = 0$ .
4. Solve one of the equations for one variable in terms of the other two, and then substitute this expression into each of the other two equations, obtaining a system of two equations in two variables.
6. yes
8.  $(6, 2, 0)$
10.  $(-2, 2, 3)$
12.  $(1, 1, -3)$
14.  $\left(-\frac{22}{13}, \frac{29}{13}, \frac{6}{13}\right)$
16. infinitely many solutions  
 $(5z + 2, -3z + 3, z)$
18.  $(4, -3, 2)$
20. no solution
22. no solution
24.  $(-5, -6, 1)$
26.  $(7, 9, 3)$
28. infinitely many solutions  
 $(2 - z, 3, z)$
30.  $(10, -20, -5)$
32.  $(10, -10, 6)$
34. A pound of mixed nuts costs \$3.15, a pound of granola costs \$2.75, and dried fruit costs \$2.89 a pound.
36. Chicken chow mein is \$2 per portion.
38. sofa: \$800; love seat: \$500; chair: \$300
40.  $12 = a; -4 = b; 10 = c$
42. a.  $e + r + g = 21$   
 $1.4e + 1.1r + 1.3g = 25$   
 $r = 2(e + g)$   
b. 5 lb empire apples;  
2 lb golden delicious;  
14 lb red delicious

# ANSWERS FOR 3.6 (CONT.)

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## 42. CONTINUED

c. *Sample answer:* You need 4 pounds of berries to make berry tarts for a party. Strawberries cost \$1.50 per pound, raspberries cost \$4.00 per pound, and blueberries cost \$2.00 per pound. You have \$8 to spend, and plan to use as many pounds of strawberries as of blueberries and raspberries combined.

$$s + r + b = 4$$

$$s = r + b$$

$$1.5s + 4r + 2b = 8$$

Buy 2 lb of strawberries,

$\frac{2}{3}$  lb of raspberries and

1.5 lb of blueberries.

44.  $w = 2; x = -12; y = -4; z = 1$

### 3.6 Mixed Review

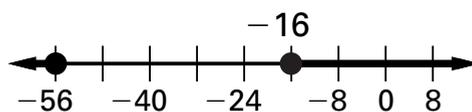
46. 16                      48. 18

50. 48                      52.  $\frac{2}{21}$

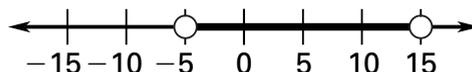
54.  $-9 < x < 31$



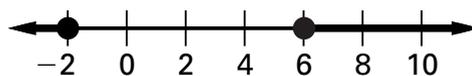
56.  $x \geq -16; x \leq -56$



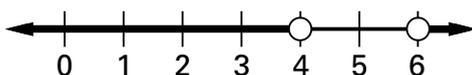
58.  $-5 < x < 15$



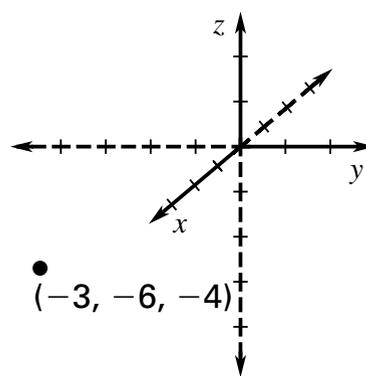
60.  $x \geq 6; x \leq -2$



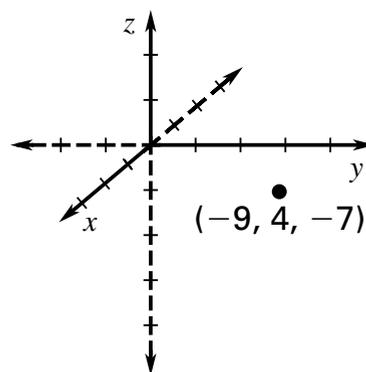
62.  $x > 6; x < 4$



64.



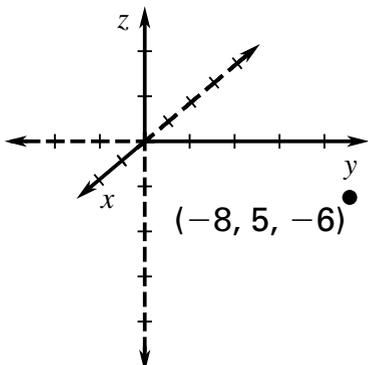
66.



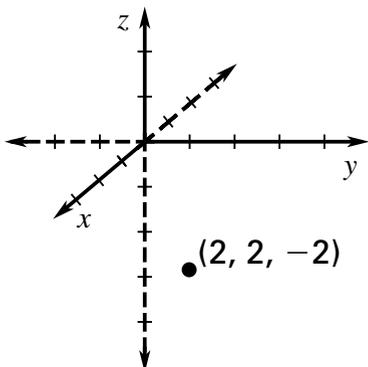
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68.

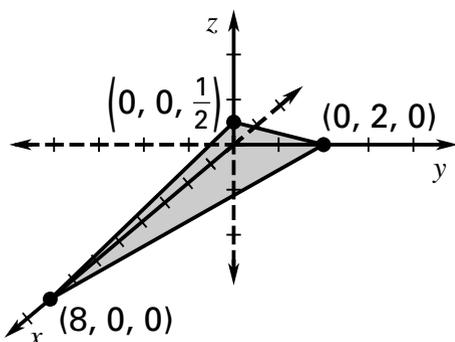


70.

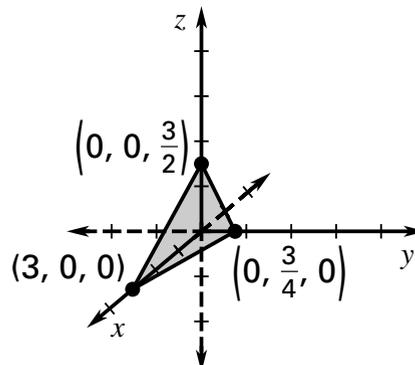


## Quiz 3

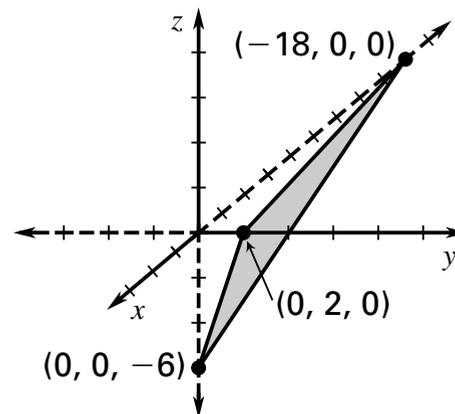
2.



4.



6.



8.  $f(x, y) = \frac{1}{2}x + y + 2; 4$

10.  $f(x, y) = \frac{1}{3}x - \frac{1}{6}y + 4; \frac{41}{6}$

12.  $(2, -4, -1)$

14. 3 string players, 10 winds, and 2 percussionists