Answers for 1.5

For use with pages 37–40

1.5 Skill Practice

1. verbal model

2. *Sample answer:* You can look for a pattern in a table to write a verbal model for a problem and then use the verbal model to write an equation.

3. 0.5 h

4. 75 mi/h

5. 90 mi

6. 5 h

7. 54 ft

8. 19 in.

9. 20 m

10. 7.5 cm

11. $y = 4x + 11$

12. $y = 60 - 15x$

13. $y = 46 - 10x$

14. $y = 50x + 57$

15. D

16. *Sample answer:* $24 + 18(n - 1)$ or $18n + 6$; in the expression, 24 represents the height of the first story and $18(n - 1)$ represents the height of the other $n - 1$ stories.

17. $4x + 9 = 12$, 0.75 ft

18. $4x + 6 = 15$, 2.25 ft

19. The pattern shows the output is decreased by 10 each time; an equation that represents the table is $y = 75 - 10x$.

20. In the table the inputs increase by 5; an equation that represents the table is $y = 2x + 7$.

21. B

22. $y = 6x + 12$

23. $y = 7x - 16$

1.5 Problem Solving

24. 156.25 mi/h

25. 3.75 km/min

26. 5.5 min

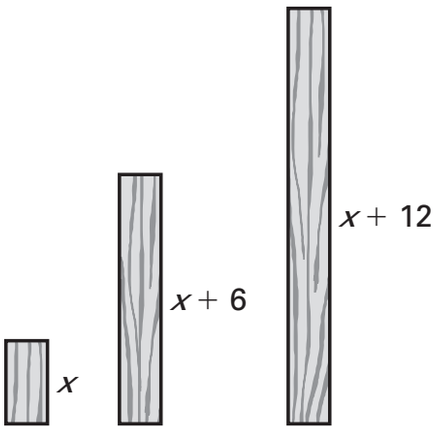
27. $y = 1.5x + 15$; no; the bamboo shoot will eventually slow its growth rate and stop growing.

28. **a.** \$45; \$50; \$55; \$60.
Sample answer:
140 text messages

b. $53.8 = 0.1x + 40$;
138 text messages

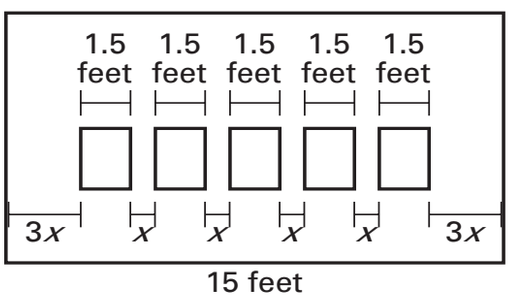
c. *Sample answer:* Yes, the estimate in part (a) was comparable to the exact answer in part (b).

29.



$3x + 18 = 72$, 18 in., 24 in., 30 in.

30.



$10x + 7.5 = 15$, $x = 0.75$ so the posters should be 0.75 foot apart and the spaces on the left and right should be 2.25 feet.

31. Let x represent the number of boxes of books,
$40x + 7(20 - x) = 404$, 8 boxes of books, 12 boxes of clothes.

32. **a.** total running distance + biking distance = race distance

b. Let t represent the time biking,
$12\left(2\frac{7}{12} - t\right) + 30t = 55$.

c. running: 1 h 15 min;
biking: 1 h 20 min

d. total running distance: 15 km;
biking distance: 40 km;
15 + 40 = 55 km

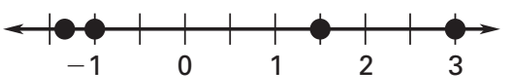
33. about 4.07 in.

1.5 Mixed Review

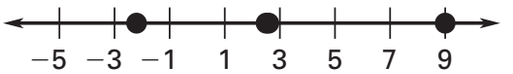
34. $d + 2.85$

35. $1.2x$

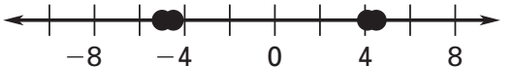
36.



37.



38.



39. 1875

40. −18

41. 0

42. 85

43. −15

44. 600

45. −15

46. −34

47. 100

48. 5

49. −36

50. 15

51. 9.5

52. −14

53. 2