

Independent Practice

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Online Extra Practice

33. Sports Justin and Tyson are beginning an exercise program to train for football season. Justin weighs 150 lb and hopes to gain 2 lb per week. Tyson weighs 195 lb and hopes to lose 1 lb per week.

- If the plan works, in how many weeks will the boys weigh the same amount?
- What will that weight be?

Write an equation to represent each relationship. Then solve the equation.

34. Three times the sum of a number and 4 is the same as 18 more than the number.

35. A number decreased by 30 is the same as 14 minus 3 times the number.

36. Two less than 2 times a number is the same as the number plus 64.

Solve each equation. Check your answer.

37. $2x - 2 = 4x + 6$

38. $3x + 5 = 2x + 2$

39. $4x + 3 = 5x - 4$

40. $-\frac{2}{5}p + 2 = \frac{1}{5}p + 11$

41. $5x + 24 = 2x + 15$

42. $5x - 10 = 14 - 3x$

43. $12 - 6x = 10 - 5x$

44. $5x - 7 = -6x - 29$

45. $1.8x + 2.8 = 2.5x + 2.1$

46. $2.6x + 18 = 2.4x + 22$

47. $1 - 3x = 2x + 8$

48. $\frac{1}{2}(8 - 6h) = h$

49. $3(x + 1) = 2x + 7$

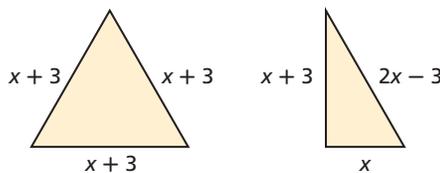
50. $9x - 8 + 4x = 7x + 16$

51. $3(2x - 1) + 5 = 6(x + 1)$

52. Travel Rapid Rental Car company charges a \$40 rental fee, \$15 for gas, and \$0.25 per mile driven. For the same car, Capital Cars charges \$45 for rental and gas and \$0.35 per mile.

- Find the number of miles for which the companies' charges will be the same. Then find that charge. Show that your answers are reasonable.
- The Barre family estimates that they will drive about 95 miles during their vacation to Hershey, Pennsylvania. Which company should they rent their car from? Explain.
- What if...?** The Barres have extended their vacation and now estimate that they will drive about 120 miles. Should they still rent from the same company as in part **b**? Why or why not?
- Give a general rule for deciding which company to rent from.

53. Geometry The triangles shown have the same perimeter. What is the value of x ?



Real-World Connections



- 54. a.** A fire currently covers 420 acres and continues to spread at a rate of 60 acres per day. How many total acres will be covered in the next 2 days? Show that your answer is reasonable.
- b.** Write an expression for the total area covered by the fire in d days.
- c.** The firefighters estimate that they can put out the fire at a rate of 80 acres per day. Write an expression for the total area that the firefighters can put out in d days.
- d.** Set the expressions in parts **b** and **c** equal. Solve for d . What does d represent?