

Name _____

Write the English phrase as an algebraic expression. Let the variable x represent the number.

- 1) eight more than a number
- 2) seven more than a number
- 3) five less than a number
- 4) eight less than a number
- 5) The sum of a number and 147
- 6) The sum of a number and 123
- 7) two subtracted from a number
- 8) three subtracted from a number
- 9) seven decreased by a number
- 10) Five times a number, decreased by thirteen
- 11) Six times a number, decreased by thirteen
- 12) five less than the product of 11 and a number
- 13) two less than the product of 13 and a number
- 14) the sum of 35 divided by a number and that number divided by 35
- 15) the sum of 40 divided by a number and that number divided by 40
- 16) four more than the quotient of a number and 15
- 17) eight more than the quotient of a number and 35
- 18) The sum of a number and 30
- 19) two less than a number
- 20) Seven times a number, decreased by ten
- 21) the sum of 20 divided by a number and that number divided by 20
- 22) the sum of 25 divided by a number and that number divided by 25

Write the sentence as an equation. Let the variable x represent the number.

23) The product of 3 and a number increased by 3 is 15.

24) The product of 3 and a number increased by 4 is 27.

25) The product of 4 and a number increased by 2 is 16.

26) The product of 4 and a number increased by 3 is 24.

Convert the mixed number to an improper fraction.

27) $5\frac{3}{5}$

28) $20\frac{8}{11}$

29) $5\frac{4}{5}$

30) $5\frac{4}{7}$

31) $4\frac{3}{7}$

32) $15\frac{11}{25}$

Convert the improper fraction to a mixed number.

33) $\frac{31}{3}$

34) $\frac{37}{3}$

35) $\frac{42}{5}$

36) $\frac{11}{2}$

37) $\frac{41}{7}$

38) $\frac{139}{11}$

39) $\frac{23}{5}$

40) $\frac{11}{3}$

41) 7

42) $\frac{199}{4}$

Perform the indicated operation. Where possible, reduce the answer to its lowest terms.

$$43) \frac{1}{14} + \frac{3}{10}$$

$$44) \frac{4}{11} + \frac{2}{7}$$

$$45) \frac{5}{6} - \frac{3}{8}$$

$$46) \frac{7}{8} - \frac{1}{4}$$

$$47) \frac{1}{7} - \frac{1}{11}$$

$$48) \frac{1}{5} - \frac{1}{11}$$

$$49) \frac{5}{7} - \frac{1}{2}$$

$$50) \frac{4}{5} - \frac{3}{20}$$

$$51) \frac{7}{17} - \frac{8}{25}$$

$$52) \frac{7}{15} - \frac{8}{23}$$

$$53) \frac{7}{9} - \frac{1}{12}$$

$$54) 14\frac{2}{4} + 4\frac{1}{6}$$

$$55) 16\frac{1}{5} + 11\frac{6}{9}$$

$$56) 18\frac{3}{7} + 16\frac{2}{5}$$

$$57) 10\frac{3}{5} + 20\frac{3}{8}$$

$$58) \frac{2}{15} + \frac{6}{11}$$

$$59) \frac{4}{5} - \frac{3}{20}$$

$$60) \frac{5}{8} - \frac{1}{4}$$

$$61) \frac{5}{6} - \frac{1}{8}$$

$$62) \frac{5}{6} - \frac{1}{4}$$

List all the elements of B that are elements of the given set.

63) $B = \{17, \sqrt{5}, -12, 0, \frac{0}{8}, \sqrt{25}\}$ Integers

64) $B = \{20, \sqrt{5}, -3, 0, \frac{0}{9}, \sqrt{25}\}$ Integers

65) $B = \{4, \sqrt{7}, -3, 0, \frac{0}{1}, \sqrt{9}\}$ Whole numbers

66) $B = \{18, \sqrt{5}, -17, 0, \frac{0}{25}, \sqrt{25}\}$ Natural numbers

67) $B = \{17, \sqrt{8}, -15, 0, \frac{0}{6}, \sqrt{25}, \frac{-8}{0}\}$ Real numbers

68) $B = \{13, \sqrt{8}, -2, 0, \frac{0}{4}, \sqrt{9}, \frac{-5}{0}, 0.59\}$ Rational numbers

69) $B = \{16, \sqrt{8}, -21, 0, \frac{0}{7}, \sqrt{25}, \frac{-8}{0}, 0.27\}$ Irrational numbers

70) $B = \{2, \sqrt{5}, -4, 0, \frac{0}{1}, \sqrt{4}\}$ Integers

71) $B = \{11, \sqrt{7}, -13, 0, \frac{0}{25}, \sqrt{25}\}$ Natural numbers

72) $B = \{10, \sqrt{8}, -15, 0, \frac{0}{9}, \sqrt{4}, \frac{-2}{0}, 0.41\}$ Rational numbers

73) $B = \{11, \sqrt{7}, -17, 0, \frac{0}{9}, \sqrt{9}\}$ Whole numbers

74) $B = \{11, \sqrt{5}, -21, 0, \frac{0}{16}, \sqrt{16}\}$ Natural numbers

75) $B = \{14, \sqrt{7}, -21, 0, \frac{0}{9}, \sqrt{25}, \frac{-7}{0}\}$ Real numbers

76) $B = \{20, \sqrt{7}, -11, 0, \frac{0}{5}, \sqrt{25}, \frac{-4}{0}, 0.76\}$ Rational numbers

77) $B = \{2, \sqrt{5}, -5, 0, \frac{0}{3}, \sqrt{9}, \frac{-8}{0}, 0.69\}$ Irrational numbers

78) $B = \{7, \sqrt{5}, -18, 0, \frac{0}{5}, \sqrt{9}\}$ Integers

79) $B = \{16, \sqrt{5}, -2, 0, \frac{0}{4}, \sqrt{4}\}$ Natural numbers

80) $B = \{17, \sqrt{5}, -3, 0, \frac{0}{4}, \sqrt{16}, \frac{-8}{0}, 0.35\}$ Rational numbers

Answer Key

Testname: Q01PREP_1.1TO1.4V01

1) $x + 8$

2) $x + 7$

3) $x - 5$

4) $x - 8$

5) $x + 147$

6) $x + 123$

7) $x - 2$

8) $x - 3$

9) $7 - x$

10) $5x - 13$

11) $6x - 13$

12) $11x - 5$

13) $13x - 2$

14) $\frac{35}{x} + \frac{x}{35}$

15) $\frac{40}{x} + \frac{x}{40}$

16) $\frac{x}{15} + 4$

17) $\frac{x}{35} + 8$

18) $x + 30$

19) $x - 2$

20) $7x - 10$

21) $\frac{20}{x} + \frac{x}{20}$

22) $\frac{25}{x} + \frac{x}{25}$

23) $3(x + 3) = 15$

24) $3(x + 4) = 27$

25) $4(x + 2) = 16$

26) $4(x + 3) = 24$

27) $\frac{28}{5}$

28) $\frac{228}{11}$

29) $\frac{29}{5}$

30) $\frac{39}{7}$

31) $\frac{31}{7}$

32) $\frac{386}{25}$

33) $10\frac{1}{3}$

Answer Key

Testname: Q01PREP_1.1TO1.4V01

34) $12\frac{1}{3}$

35) $8\frac{2}{5}$

36) $5\frac{1}{2}$

37) $5\frac{6}{7}$

38) $12\frac{7}{11}$

39) $4\frac{3}{5}$

40) $3\frac{2}{3}$

41) 7

42) $49\frac{3}{4}$

43) $\frac{13}{35}$

44) $\frac{50}{77}$

45) $\frac{11}{24}$

46) $\frac{5}{8}$

47) $\frac{4}{77}$

48) $\frac{6}{55}$

49) $\frac{3}{14}$

50) $\frac{13}{20}$

51) $\frac{39}{425}$

52) $\frac{41}{345}$

53) $\frac{25}{36}$

54) $18\frac{2}{3}$

55) $27\frac{13}{15}$

56) $34\frac{29}{35}$

Answer Key

Testname: Q01PREP_1.1TO1.4V01

57) $30\frac{39}{40}$

58) $\frac{112}{165}$

59) $\frac{13}{20}$

60) $\frac{3}{8}$

61) $\frac{17}{24}$

62) $\frac{7}{12}$

63) $17, -12, 0, \frac{0}{8}, \sqrt{25}$

64) $20, -3, 0, \frac{0}{9}, \sqrt{25}$

65) $4, 0, \frac{0}{1}, \sqrt{9}$

66) $18, \sqrt{25}$

67) $17, \sqrt{8}, -15, 0, \frac{0}{6}, \sqrt{25}$

68) $13, -2, 0, \frac{0}{4}, \sqrt{9}, 0.59$

69) $\sqrt{8}$

70) $2, -4, 0, \frac{0}{1}, \sqrt{4}$

71) $11, \sqrt{25}$

72) $10, -15, 0, \frac{0}{9}, \sqrt{4}, 0.41$

73) $11, 0, \frac{0}{5}, \sqrt{9}$

74) $11, \sqrt{16}$

75) $14, \sqrt{7}, -21, 0, \frac{0}{9}, \sqrt{25}$

76) $20, -11, 0, \frac{0}{5}, \sqrt{25}, 0.76$

77) $\sqrt{5}$

78) $7, -18, 0, \frac{0}{5}, \sqrt{9}$

79) $16, \sqrt{4}$

80) $17, -3, 0, \frac{0}{4}, \sqrt{16}, 0.35$