

## Chapter 1 Review

- List all the factors of 48.
- Find the prime factorization of 240.
- Write the prime factorization for 12 and 75. Then find the LCM of 12 and 75.
- Write the prime factorization for 15, 36, and 54. Then find the LCM of 15, 36, and 54.
- Write an equivalent expression with the given denominator:  $\frac{3}{8}$  (denominator: 24)
- Write an equivalent expression with the given denominator:  $\frac{5}{12}$  (denominator: 48)

Problems 7 – 9: Simplify

- $\frac{320}{4000}$
- $\frac{75}{105}$
- $-\frac{52xy}{28xy}$

Problems 10 – 13: Evaluate

- $\frac{2a}{b}$  for  $a=6$  and  $b=4$
- $\frac{x-y}{7}$  for  $x=30$  and  $y=9$
- $-7x^2$  for  $x=-1$
- $3x^2$  for  $x=-2$
- $|-2.5| =$
- $\left|\frac{7}{3}\right| =$
- The opposite of  $-3$  is \_\_\_\_\_.
- The opposite of  $\frac{9}{4}$  is \_\_\_\_\_.
- The reciprocal of  $-3$  is \_\_\_\_\_.
- The reciprocal of  $\frac{9}{4}$  is \_\_\_\_\_.
- Find  $-x$  when  $x=-2$  and  $x=10$

21. Find  $-(-x)$  when  $x=5$  and  $x=-7$

Problems 22 – 27: Write as an algebraic expression.

22. 10 more than  $y$

23. 8 less than  $z$

24. 7 more than 3 times  $x$

25. 7% of some number

26. the sum of  $y$  and  $z$

27. the product of 4 and  $c$

Problems 28 – 31: Insert  $<$  or  $>$  to write a true statement.

28.  $-2$        $-5$

29.  $-3.1$        $-3.04$

30.  $\frac{1}{8}$        $\frac{1}{2}$

31.  $\frac{12}{29}$        $\frac{4}{9}$

32. Locate the following numbers on a number line:      A:  $-2.5$       B:  $\frac{8}{9}$       C:  $-\frac{10}{3}$

Problems 33 – 50: Compute and simplify.

33.  $6+(-9)+(-8)+7$

34.  $-3-(-7)$

35.  $-\frac{9}{10}+\frac{2}{15}$

36.  $-9\cdot(-6)$

37.  $\frac{2}{9}\cdot\left(-\frac{3}{8}\right)$

38.  $3\cdot(-7)\cdot(-2)\cdot(-5)$

39.  $35\div(-5)$

40.  $-\frac{3}{5}\div\left(-\frac{4}{25}\right)$

41.  $-10^2$

42.  $(-10)^2$

43.  $8+4\div 2$

44.  $256\div(-16)\div 4$

45.  $6-2^3$

46.  $20-4^2\div 2+6$

47.  $4[9-(5-6)]$

48.  $40-5[6-3(7-9)]$

49.  $\frac{11+3^2}{3-2^3}$

50.  $50\div 10\cdot(-5)+2$

Problems 51 – 52: Multiply

51.  $5(3x-7)$

52.  $-8(3-6x)$

Problems 53 – 55: Factor

53.  $2x - 14$

54.  $18x + 81 - 54y$

55.  $\frac{3}{7}x - \frac{4}{7}y + \frac{8}{7}$

Problems 56 – 61: Simplify

56.  $6x + 3y - x - 4y$

57.  $2a - (5a - 9)$

58.  $3(2x + 5) - 2(9x - 3)$

59.  $3[5(y-3)+9]+2(y+8)$

60.  $\frac{2}{3}x - \frac{1}{2}y - \frac{3}{4}x - \frac{3}{8}y$

61.  $[8(x+4)-10]-[3(x-2)+4]$

62. The temperature in Antarctica dropped from  $-59^\circ\text{F}$  to  $-73^\circ\text{F}$ . How many degrees did the temperature drop?
63. The simple interest  $I$  on a principal of  $P$  dollars at interest rate  $r$  for time  $t$ , in years, is given by  $I = Prt$ . Find the simple interest on a principal of \$5,400 at 4% interest for 5 years.
64. On the first, second, and third downs, a football team had these gains and losses: 5-yd gain, 12-yd loss, and 15-yd gain, respectively. Find the total gain (or loss).
65. The temperature of a chemical compound was  $5^\circ\text{C}$  at 4:15 p.m. During a reaction, it dropped  $3^\circ\text{C}$  per minute until 4:27 p.m. What was the temperature at 4:27 p.m.?
66. Last year a certain make of car cost \$17,500. This year the same car cost \$18,200. What was the percent increase in the price?

Answers

1. 1,2,3,4,6,8,12,16,24,48    2.  $2 \cdot 2 \cdot 2 \cdot 2 \cdot 3 \cdot 5$     3.  $12 = 2 \cdot 2 \cdot 3$ ,  $75 = 3 \cdot 5 \cdot 5$ , LCM=300

4.  $15 = 3 \cdot 5$ ,  $36 = 2 \cdot 2 \cdot 3 \cdot 3$ ,  $54 = 2 \cdot 3 \cdot 3 \cdot 3$ , LCM=540

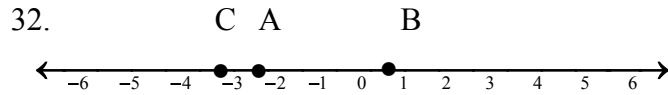
5.  $\frac{9}{24}$     6.  $\frac{20}{48}$     7.  $\frac{2}{25}$     8.  $\frac{5}{7}$     9.  $-\frac{13}{7}$     10. 3

11. 3    12.  $-7$     13. 12    14. 2.5    15.  $\frac{7}{3}$     16. 3

17.  $-\frac{9}{4}$     18.  $-\frac{1}{3}$     19.  $\frac{4}{9}$     20. 2,  $-10$     21. 5,  $-7$     22.  $y+10$

23.  $z-8$     24.  $3x+7$     25.  $0.07x$     26.  $y+z$     27.  $4c$     28.  $>$

29.  $<$     30.  $<$     31.  $<$



33.  $-4$     34.  $4$     35.  $-\frac{23}{30}$     36.  $54$     37.  $-\frac{1}{12}$     38.  $-210$

39.  $-7$     40.  $\frac{15}{4}$     41.  $-100$     42.  $100$     43.  $10$     44.  $-4$

45.  $-2$     46.  $18$     47.  $40$     48.  $-20$     49.  $-4$     50.  $-23$

51.  $15x - 35$     52.  $-24 + 48x$     53.  $2(x - 7)$

54.  $9(2x + 9 - 6y)$     55.  $\frac{1}{7}(3x - 4y + 8)$     56.  $5x - y$

57.  $-3a + 9$     58.  $-12x + 21$     59.  $17y - 2$

60.  $-\frac{1}{12}x - \frac{7}{8}y$     61.  $5x + 24$

62. The temperature dropped  $14^{\circ}\text{F}$ .

63. The interest is \$1,080.

64. The total gain is 8 yards.

65. The temperature at 4:27 p.m. was  $-31^{\circ}\text{C}$ .

66. The price of the car increased by 4%.