

Do the following problems as indicated. Show your work.

**Insert <, >, or = to make the statement true.**

1)  $|-10|$  \_\_\_\_\_  $|-20|$

2)  $0$  \_\_\_\_\_  $|-36|$

3)  $-|-17|$  \_\_\_\_\_  $-|-27|$

**Write the phrase as an algebraic expression. Let x represent the unknown number.**

4) Seven more than a number

5) The product of nine and a number.

6) Five times a number increased by 13

7) Ten less than twice a number

**Add.**

8)  $-\frac{2}{5} + (-\frac{2}{5})$

9)  $5.4 + (-9.9)$

10)  $\frac{1}{2} + (-\frac{1}{4})$

**Subtract.**

11)  $-5 - 9$

12)  $-10.5 - (-2.4)$

13)  $-\frac{2}{3} - \frac{1}{2}$

14)  $-\frac{3}{4} - \left(-\frac{5}{8}\right)$

**Simplify the expression. (Remember the order of operations.)**

15)  $|-8| - 4^2 - (-9 - 6)$

16)  $(4 - 3)(4 + 4) - 5^2$

17)  $[17 - (-13)] - [15 + (-6)]$

**Multiply.**

18)  $-\frac{12}{30}\left(\frac{5}{6}\right)$

19)  $-\frac{9}{20}\left(-\frac{4}{3}\right)$

20)  $(-3)(4)(-5)(-4)$

**Divide.**

21)  $\frac{-104}{-4}$

22)  $\frac{-63}{0}$

23)  $-\frac{1}{2} \div \left(-\frac{1}{5}\right)$

24)  $\frac{1}{3} \div \left(-\frac{5}{8}\right)$

**Simplify.**

25)  $-|-18|$

26)  $-(-6)$

27)  $- \left| -\frac{6}{19} \right|$

**Evaluate.**

28)  $-6^2$

29)  $(-5)^2$

**Simplify the expression.**

30)  $\frac{14 + |13 - 1|}{16 - 4}$

31)  $\frac{28(17 - 14) - 6}{3^2 - 3}$

32)  $[36 - (4 + 6) \div 2] - [1 + 21 \div 3]$

33)  $(3 + 2)[4 + (4 + 8)]$

**Evaluate the expression when  $x = 5$ ,  $y = -2$ , and  $t = 8$ .**

34)  $\frac{19 - x}{y + 4}$

35)  $t^2 - 4y$

**If  $x = -4$  and  $y = -2$ , evaluate the expression.**

36)  $8x + 2y$

37)  $x^4 + 4y$

38)  $\frac{4 - 2x}{y + 2}$

**Solve.**

39) On part of a scenic tour of underground caves, Dave and Neil started at an elevation of  $-53$  feet. They then rose 12 feet. What was their elevation at this point?

40) At the start of a chemistry experiment, Sarah measured the temperature of a liquid to be  $-18^\circ\text{C}$ . At the end of the experiment, it had risen  $25^\circ\text{C}$ . What was the liquid's temperature at the end of the experiment?

41) In a game of cards, Lindsey won 10 chips, lost 14 chips, won 12 chips, and lost 13 chips. What was her final count of chips?

**Use the commutative and associative properties to simplify the expression.**

42)  $-3(9y)$

43)  $\frac{2\left(\frac{9}{2}t\right)}{9}$

44)  $\frac{2}{5}(-5y)$

45)  $4 + (2x - 6)$

**Use the distributive property to write the expression without parentheses. Then simplify, if necessary.**

46)  $3(5n + 2)$

47)  $\frac{1}{3}(9x - 6)$

48)  $12(3z + 6) - 2$

**Use the distributive property to write the sum as a product.**

49)  $(-3)c + (-3)t$

50)  $(9)d + (9)r$

**Find the additive inverse or opposite of the number.**

51)  $-(7.8)$

**Find the multiplicative inverse or reciprocal of the number.**

52)  $6\frac{5}{8}$

**Name the property illustrated by the statement.**

53)  $(5 + 7) + 9 = (7 + 5) + 9$

54)  $(3 \cdot 4) \cdot 6 = 3 \cdot (4 \cdot 6)$

55)  $5(x + 5) = 5x + 5 \cdot 5$

56)  $2 + 0 = 2$

57)  $\frac{1}{3} \cdot 3 = 1$

# Answer Key

## Testname: EXAM 1 REVIEW

- 1) <
- 2) <
- 3) >
- 4)  $x + 7$
- 5)  $9x$
- 6)  $5x + 13$
- 7)  $2x - 10$
- 8)  $-\frac{4}{5}$
- 9)  $-4.5$
- 10)  $\frac{1}{4}$
- 11)  $-14$
- 12)  $-8.1$
- 13)  $-\frac{7}{6}$
- 14)  $-\frac{1}{8}$
- 15)  $7$
- 16)  $-17$
- 17)  $21$
- 18)  $-\frac{1}{3}$
- 19)  $\frac{3}{5}$
- 20)  $-240$
- 21)  $26$
- 22) undefined
- 23)  $\frac{5}{2}$
- 24)  $-\frac{8}{15}$
- 25)  $-18$
- 26)  $6$
- 27)  $-\frac{6}{19}$
- 28)  $-36$
- 29)  $25$
- 30)  $\frac{13}{6}$
- 31)  $13$
- 32)  $23$
- 33)  $80$
- 34)  $7$
- 35)  $72$
- 36)  $-36$
- 37)  $248$
- 38) undefined
- 39)  $-41$  ft
- 40)  $7^\circ$  C
- 41)  $-5$  chips
- 42)  $-27y$
- 43)  $t$
- 44)  $-2y$
- 45)  $-2 + 2x$
- 46)  $15n + 6$
- 47)  $3x - 2$
- 48)  $36z + 70$
- 49)  $-3(c + t)$
- 50)  $9(d + r)$
- 51)  $7.8$
- 52)  $\frac{8}{53}$
- 53) commutative property
- 54) associative property
- 55) distributive property
- 56) identity element for addition
- 57) multiplicative inverse property