



## PROBLEMS AND SOLUTIONS - SIGNED NUMBERS

Prepared by Ingrid Stewart, Ph.D., College of Southern Nevada

Please Send Questions and Comments to [ingrid.stewart@csn.edu](mailto:ingrid.stewart@csn.edu). Thank you!

**PLEASE NOTE THAT YOU CANNOT USE A CALCULATOR ON THE ACCUPLACER - ELEMENTARY ALGEBRA TEST! YOU MUST BE ABLE TO DO THE FOLLOWING PROBLEMS WITHOUT A CALCULATOR!**

### Problem 1:

Which of the following numbers is the smallest?

$$0, 1, -\frac{1}{3}, -3$$

### Problem 2:

Which of the following numbers is the smallest?

$$-10, -20, -5.3, 0$$

### Problem 3:

Which of the following numbers is the largest?

$$-1, 0.01, 0.1, -0.2$$

### Problem 4:

Evaluate  $|-7|$ .

### Problem 5:

Evaluate  $|5|$ .

### Problem 6:

Evaluate  $|0|$ .

### Problem 7:

Evaluate  $|\frac{2}{3}|$ .

**Problem 8:**

Evaluate  $\left|\frac{7}{8}\right|$ .

**Problem 9:**

Change  $\frac{-5}{6}$  to two different equivalent fractions.

**Problem 10:**

Change  $-\frac{3}{4}$  to two different equivalent fractions.

**Problem 11:**

Find the sum of  $-2 + (-9)$ .

Note: To separate the directional sign of a number from the operational sign, it is customary to enclose the signed number in parentheses!

**Problem 12:**

Find the sum of  $+2 + (+9)$ .

**Note: It is not necessary nor is it customary and standard to include the positive sign for positive numbers. It is only done here to illustrate the concept of addition of signed numbers.**

**Problem 13:**

Find the sum of  $-2 + (+9)$ .

**Problem 14:**

Find the sum of  $2 + (-9)$ .

**Problem 15:**

Carry out the following subtractions.

a.  $12 - (+3)$

b.  $5 - (+7)$

c.  $-3 - (-5)$

d.  $0 - (-5)$

e.  $0 - (+5)$

**Problem 16:**

Find the sum of  $\frac{-3}{4} + \frac{-4}{7}$  and write as a mixed number.

**Problem 17:**

Find the difference of  $\frac{-3}{7} - \frac{4}{-7}$ .

**Problem 18:**

Evaluate  $3 + 5 - 6$ .

**Problem 19:**

Evaluate  $-18 + 12 - 7$ .

**Problem 20:**

Evaluate  $6 - 3 + 10 - 7 - 13 + 33$ .

**Problem 21:**

Find the product of  $-2(-9)$ .

**Problem 22:**

Find the product of  $2(9)$ .

**Problem 23:**

Find the product of  $-2(9)$ .

**Problem 24:**

Find the product of  $2(-9)$ .

**Problem 25:**

Find the product of  $0(-9)$ .

**Problem 26:**

Find  $\left(-\frac{1}{3}\right)^2$ .

**Problem 27:**

Find the product of  $-3(2)(2)$ .

**Problem 28:**

Find the product of  $3(-2)(-1)(0)(-9)$ .

**Problem 29:**

Find the product of  $\frac{-5}{6}\left(\frac{7}{-9}\right)$ .

**Problem 30:**

Find the quotient of  $\frac{-9}{-3}$ .

**Problem 31:**

Find the quotient of  $\frac{9}{3}$ .

**Problem 32:**

Find the quotient of  $\frac{9}{-3}$ .

**Problem 33:**

Find the quotient of  $\frac{-9}{3}$ .

**Problem 34:**

Find the quotient of  $\frac{-9}{0}$ .

**Problem 35:**

Find the quotient of  $\frac{0}{-9}$ .

**Problem 36:**

Find the quotient of  $\frac{-4}{3} \div \frac{5}{-7}$ .

**Problem 37:**

Convert  $-4\frac{7}{8}$  to an improper fraction.

**Problem 38:**

Convert  $-1\frac{4}{9}$  to an improper fraction.

**Problem 39:**

Find the sum of  $-6\frac{1}{2} + \left(-2\frac{2}{3}\right)$  and write as a mixed number.

**Problem 40:**

Use the **Order of Operation** to simplify  $-4(6 - 7) - 4(3 - 4)$ .

**Problem 41:**

Use the **Order of Operation** to simplify  $7(3 + 9) - (6 - 3)$ .

**Problem 42:**

Use the **Order of Operation** to simplify  $2(6 - 8)^2 - (4 - 5)^2$ .



## SOLUTIONS

You can find detailed solutions below the link for this problem set!

1. -3	2. -20	3. 0.1
4. 7	5. 5	6. 0
7. $\frac{2}{3}$	8. $\frac{7}{8}$	9. $\frac{5}{-6}, -\frac{5}{6}$
10. $\frac{-3}{4}, \frac{3}{-4}$	11. -11	12. 11
13. 7	14. -7	15. a. 9 b. -2 c. 2 d. 5 e. -5
16. $-1\frac{9}{28}$	17. $\frac{1}{7}$	18. 2
19. -13	20. 26	21. 18
22. 18	23. -18	24. -18
25. 0	26. $\frac{1}{9}$	27. -12
28. 0	29. $\frac{35}{54}$	30. 3
31. 3	32. -3	33. -3
34. Undefined	35. 0	36. $1\frac{13}{15}$
37. $-\frac{39}{8}$	38. $-\frac{13}{9}$	39. $-9\frac{1}{6}$
40. 8	41. 81	42. 7