

**WHOLE NUMBER OPERATIONS.**

1.  $578 + 436 + 1095$

Be able to borrow with 0's.

2.  $70021 - 6854$

Check your answer using addition.

3.  $847 \times 329$

4.  $7488 \div 36$

Check your answer using multiplication.**ROUNDING WHOLE NUMBERS.** Must know place values to round.*Example:* Round **85,345** to the nearest thousand.

millions	hundred-thousands	ten-thousands	thousands	hundreds	tens	ones
		8	5	3	4	5

- Find the thousands place, then look at the value next to it.
- If it's 5 or greater, add 1 to the number in the thousands place and replace everything to the right with 0's.
- If it's less than 5, then leave the number in the thousands place as it is and replace everything to the right with 0's.

\*Therefore **85,345** rounds to **85,000**

- Round **136,470** to the nearest ten-thousand.
- Round **3,998** to the nearest ten.
- Round **56,057** to the nearest hundred.
- Round **9,225,816** to the nearest million.

**ROUNDING DECIMALS.** Must know place values to the right of decimal point to round.

**Example:** Round **2.0665** to the nearest hundredth.

ones	.	tenths	hundredths	thousandths	ten-thousandths	hundred-thousandths	millionths
2	.	0	6	6	5		

- Find the hundredths place, then look at the value next to it.
- If it's 5 or greater, add 1 to the number in the hundredths place and eliminate everything to the right.
- If it's less than 5, then leave the number in the hundredths place as it is and eliminate everything to the right.

\*Therefore **2.0665** rounds to **2.07**

- Round **0.361283** to the nearest hundred-thousandth.
- Round **758.074** to the nearest tenth.
- Round **492.56** to the nearest whole (ones place).
- Round **0.003291** to the nearest thousandth.
- Round \$ **50.6275** to the nearest cent (hundredths place) .

### COMPARING NUMBERS.

-( ) Opposite value of a number changes the sign of the number.

| | Absolute value of a number is its distance from zero. Distance can only be positive or 0.

**Example:**  $-(7) = -7$        $-(-7) = 7$

**Example:**  $|-6| = 6$        $|6| = 6$        $|6 - 6| = 0$

Fill in the blank with one of the symbols below to make the sentence true.

< (less than)

> (greater than)

= (equal)

14.  $-(9)$  \_\_\_\_\_  $-(8)$

15.  $-(-5)$  \_\_\_\_\_  $-|-5|$

16.  $-69.9$  \_\_\_\_\_  $-70$

## INTEGER ADDITION AND SUBTRACTION.

When **adding** integers, use the following rules:

- If the signs are the same, add the absolute value of the numbers together, and keep the sign.  
**Example:**  $-6 + -15$      Add  $6 + 15$  to get 21     then keep the sign     so the answer would be  $-21$
- If the signs are different, subtract the absolute value of the numbers, and take the sign of the number with the larger absolute value.  
**Example:**  $-6 + 15$      Subtract  $15 - 6$  to get 9     then take the sign of the 15 which is positive, so the answer would be 9.

17.  $21 + -4$

18.  $-103 + 88$

19.  $-35 + 35$

20.  $-79 + -83$

When **subtracting** integers, unless both numbers are positive, rewrite the problem as adding the opposite, and then use the addition rules.

**Example:**  $12 - 4$      Both numbers being subtracted are positive so leave as is. The answer would be 8.

**Example:**  $12 - (-4)$      You are subtracting a negative 4. So you rewrite it as adding a positive 4. It would look like this  $12 + 4$  therefore the answer would be 16.

**Example:**  $-12 - 4$      You are subtracting a positive 4. So you rewrite it as adding a negative 4. It would look like this  $-12 + -4$  therefore the answer would be  $-16$ .

**Example:**  $-12 - (-4)$      You are subtracting a negative 4. So you rewrite it as adding a positive 4. It would look like this  $-12 + 4$  therefore the answer would be  $-8$ .

21.  $62 - 34$      Answer \_\_\_\_\_

22.  $441 - (-68)$      Rewrite as \_\_\_\_\_

Answer \_\_\_\_\_

23.  $53 - 100$  Rewrite as \_\_\_\_\_

Answer \_\_\_\_\_

24.  $-25 - (-89)$  Rewrite as \_\_\_\_\_

Answer \_\_\_\_\_

25.  $-78 - (73)$  Rewrite as \_\_\_\_\_

Answer \_\_\_\_\_

### INTEGER MULTIPLICATION AND DIVISION.

When multiplying and dividing integers, use the following rules:

- a. If the signs are the same, the result will be positive.

**Example:**  $-7 \times -4 = 28$  same as  $(-7)(-4) = 28$  same as  $-7(-4) = 28$

**Example:**  $-54 \div -9 = 6$  same as  $\frac{-54}{-9} = 6$

- b. If the signs are different, the result will be negative.

**Example:**  $-7 \times 4 = -28$  same as  $(-7)(4) = -28$  same as  $-7(4) = -28$

**Example:**  $-54 \div 9 = -6$  same as  $\frac{-54}{9} = -6$

26.  $-8(15)$

27.  $-72 \div -12$

28.  $(-44)(-3)$

29.  $\frac{468}{-6}$

30.

31.

**Multiplication with 0.**

Any number multiplied by 0 is 0.

*Example:*  $0 \times -56,324 = 0$

**Division with 0.**

Zero divided by any number other than 0, equals 0.

*Example:*  $0 \div -11 = 0$  same as  $\frac{0}{-11} = 0$

A number cannot be divided by 0. It is undefined.

*Example:*  $188 \div 0 = \text{undefined}$  same as  $\frac{188}{0} = \text{undefined}$

32.  $\frac{-305}{0}$

33.  $14 \times 0$

34.  $\frac{0}{57}$

35.  $0(-612)$