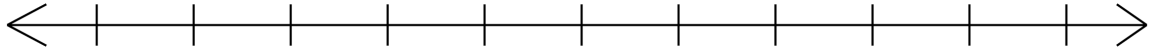


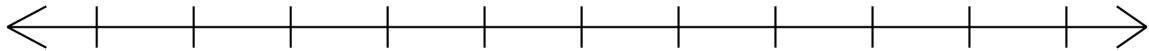
LESSON 12 – PRACTICE PROBLEMS

1. Place numbers on number lines below according to the instructions.

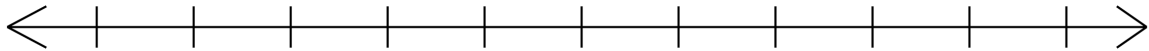
a. Label the number line to include integers from -10 to 0.



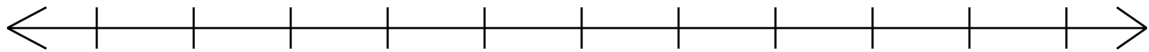
b. Label the number line to include signed numbers from $-2\frac{1}{2}$ to $2\frac{1}{2}$ in increments of $\frac{1}{2}$.



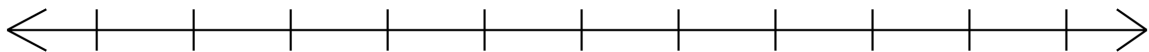
c. Label the number line to include signed numbers from -100 to -90



d. Label the number line to include signed numbers starting with -40, incrementing by $\frac{1}{4}$.



e. Label the number line to include signed numbers starting with -15, incrementing by 4.



2. Write the signed numbers in order from left to right. Show your work and/or explain your reasoning.

a. -15 5 $|-5|$ $\frac{20}{-5}$ $(-1)^3$

b. -0.5 -0.005 -0.05 -1.5 -1.05

c $\frac{1}{3}$ $\frac{3}{4}$ $\frac{-3}{2}$ $-\frac{4}{3}$ $\frac{1}{-8}$

d. -4 $-\frac{12}{6}$ -6 -2 -3

e. -4.5 -6.8 -7.3 -5.4 -3.8

3. Provide a numerical quantity that accurately represents each of the following situations.

a. In a given week, Mark gained 3 pounds of weight.	
b. Larry descended in a submarine 100 feet below sea level.	
c. The water temperature rose to 100 degrees Fahrenheit.	
d. Ruth spent \$54.67 on Amazon.com.	
e. Larry earned \$675.23 at his job this week.	

4. Compute each of the following absolute values. Show work if possible.

a. $|-5|$

b. $-|-12|$

c. $-\left|\frac{1}{-4}\right|$

d. $\left|1\frac{2}{3}\right|$

e. $-|-2| - |-5|$

5. Combine the following signed numbers. Use the number line to help you visualize. Show steps if possible.

a. $\frac{1}{2} - \left(-\frac{1}{2}\right)$

b. $-3 + (-5)$

c. $4 - (-3) + 2$

d. $5 + (-1) + 4$

e. $6 - (-3) + (-1)$

6. Combine the following signed numbers. Show steps if possible. Leave your answer as a simplified fraction. Convert improper fractions to mixed numbers.

a. $\frac{1}{2} \div \left(-\frac{1}{3}\right)$

b. $3 \cdot (-5)$

c. $-4 \cdot (-8)$

d. $-5 \div 4$

e. $2 \div -\frac{1}{3}$

7. Compute each of the following. There are four separate computations per problem.

a. 1^2

$(-1)^2$

$-(-1)^2$

$-(1)^2$

b. 2^2

$(-2)^2$

$-(-2)^2$

$-(2)^2$

c. $\left(\frac{1}{2}\right)^2$

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

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

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

c. $\left(\frac{1}{3}\right)^3$

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

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

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

c. $(1-3)^2$

$(3-1)^2$

$-(-3-1)^2$

$-(1-3)^2$

8. Combine each of the following using correct order of operations and showing all possible steps.

a. $8 \div (-3)^2 + 1(-4)$

b. $3 \cdot (-2)(0) - 4(-5)(0)$

c. $\frac{-4 - (-2)^2}{7 + (-3)}$

d. $-10 \cdot (-4) \div (-8) \cdot 2 + 3$

e. $-(-2)^2 - 1 \div (-5) + 7$

9. Solve each of the following application problems. Use the 5-step process as your guide. Circle the GIVENS and underline the GOAL. Show MATH WORK and WRITE YOUR FINAL ANSWER AS A COMPLETE SENTENCE.

a. According to the yahoo website on Dec 8, 2012 the predicted daily high temperature in Fairbanks, AK for the next 5 days was -10° , -3° , -4° , 8° , 7° Fahrenheit. What would the average daily high temperature be for that 5 day period?

b. An airplane took off and reached a cruising altitude of 34,000 feet. Over the next 4 hours due to weather, the plane descended to 32,000 feet, rose to 35,000 feet, descended to 30,000 feet, and rose to 36,000 ft. Determine the total elevation change during this time.

c. Marty has \$250.01 in his checking account. He writes checks in the amounts of \$13.25, \$42.00, \$73.45, and \$175 and mails them on a Monday. He makes a deposit in the amount of \$50.23 on the same day. If all the checks are subtracted from his account on Wednesday, did he overdraw his account and if so, by how much? If not, how much does he have left in his account?

d. Mt. Everest (8,848 meters) is the highest measured point on earth. This point is measured from sea level. Challenger Deep is the lowest measured point on earth at 10,911 meters below sea level. If a person started at Challenger Deep and rose to the height of Mt. Everest, how many vertical meters would they travel? Also compute this distance in miles. Round to hundredths as needed. (*Measurement source:* http://en.wikipedia.org/wiki/Extreme_points_of_Earth)