

## Review for Test #4 over Ch 10 and Sect 11.1

Work all the problems on a separate piece of paper showing all steps.

**Compare the following using < or >:**

1a)  $-3 \underline{\hspace{1cm}} -5$

1b)  $-4 \underline{\hspace{1cm}} 1$

2a)  $-7.679 \underline{\hspace{1cm}} -7.68$

2b)  $-8\frac{1}{5} \underline{\hspace{1cm}} -8.029$

**Evaluate the following for  $x = -3$  and  $y = -8.2$ :**

3a)  $x + y$

3b)  $xy$

4a)  $x - y$

4b)  $x \div y$

**Simplify the following:**

5)  $-(-9.2) - 11.1$

6)  $(-3\frac{4}{7})(-4.2)$

7)  $78 + (-45) + 65 + (-199)$

8)  $-(-3) - (6) + (-5) - (-7)$

9)  $-1.9 - (-0.3) + (-0.7) - (0.5)$

10)  $(-3)(-4)(5)(2)(-4)(1)$

11)  $(-6.8) \div (-2.8)$

12)  $-\frac{1}{3} - (-\frac{7}{8}) + (-\frac{3}{4})$

13)  $|-3\frac{4}{7}| \div |4\frac{1}{6}|$

14)  $(4-8)^3 \div (3-9) - \frac{2}{3}$

15)  $-9 \div [(-8)(3) - 7(-2)]^2$

16)  $\frac{-12 - 4(3)^2(2)}{9^2 - 8^2 + (-2)^2}$

17)  $-(55 - 50(2)) - (7 - 4^2)^2 \div (-3)^3$

18)  $([-\frac{1}{2}]^3 + \frac{5}{12} \cdot \frac{2}{3}) - \frac{1}{4}$

19a)  $(-67.4)(56.8)(-345.1)(0)(-3)$

19b)  $(0.7)(-3)(0.2)(-6.8) \div 0(9)$

20)  $-0.7(-9 + 8\frac{6}{7})^2 - (-111.5) + \frac{-7}{10}$

21)  $-|-7 - (-9)|$

**Evaluate the following:**

$$22) \quad |x^2 + 0.8y| + 0.1| - x - 0.5|$$

$$x = -0.2, y = -0.3$$

$$23) \quad 24x^3 - 36y^2 + 6xy - 8$$

$$x = -\frac{1}{2} \text{ and } y = \frac{1}{3}$$

**Write an expression for each of the following:**

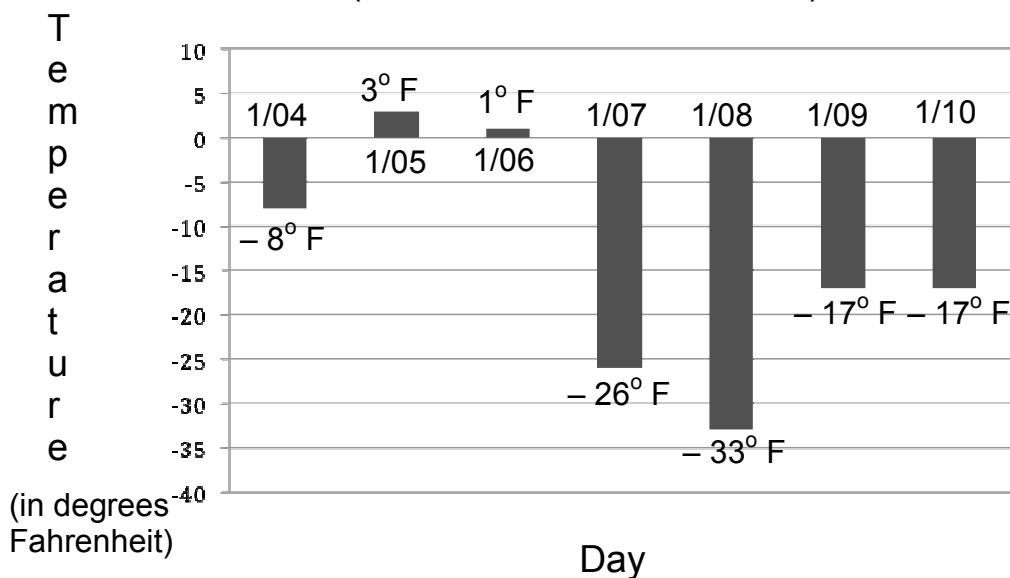
24) The width is twice the sum of the length  $L$  and negative three

25) The winnings  $w$  were divided equally among 8 people.

26) Leroy's age is four years less than triple Joy's age  $J$ .

**Use the graph below to answer the following questions:**

The High Temperatures for Fort Yukon, Alaska for Jan. 4 - Jan. 10, 2003  
(Source: AccuWeather.com)



27) Find a) the mean and b) the mode of the high temperatures for the week.

**Solve the following:**

28) The Dallas Cowboy's offense starts on their own 28 yard line. On the next 3 plays, they lost 7 yards, gained 13 yards, and lost 18 yards respectively. On what yard line was the Cowboy's offense after the three plays.

**Solve the following:**

- 29) Adelman's Antiques sold five Deluxe Handcrafted Christmas Balls of \$84.99 for each. They made a profit of \$8.31 on the first ball, lost \$27.90 each on the second and third ball, and made a profit of \$3.19 and \$5.30 on the last two balls respectively. What was their  
a) average profit or loss and b) median profit or loss on the sale of the Christmas Balls?
- 30) During a thirty-week period, Juanita won five prizes of \$5 each playing the lottery. Assuming she played twice a week and bought 1 ticket for \$1 each time she played, what was her net gain or loss for the that period?

**In the problem below, the student has made an error. Use critical thinking to find and correct the error. Then finish working the problem.**

31)  $-7 + 26$

Solution:

$$-7 + 26 = -33$$

32)  $-2.8 - 1.3$

Solution:

$$-2.8 - 1.3 = -2.8 + 1.3 = -1.5$$

33)  $\left(-4\frac{1}{6}\right) \div \left(2\frac{8}{11}\right)$

Solution:

$$\begin{aligned} \left(-4\frac{1}{6}\right) \div \left(2\frac{8}{11}\right) &= -\frac{25}{6} \div \frac{30}{11} \\ &= -\frac{25}{\cancel{6}_1} \div \frac{\cancel{30}^5}{11} = -\frac{25}{1} \div \frac{5}{11} \\ &= -\frac{25}{1} \cdot \frac{11}{5} = -\frac{\cancel{25}^5}{1} \cdot \frac{11}{\cancel{5}_1} = -55 \end{aligned}$$

34) Evaluate the following:

$$-x + 3y - 2z$$

$$x = -2, y = 4, \text{ and } z = -1$$

Solution:

$$\begin{aligned} &-2 + 3(4) - 2(-1) \\ &= -2 + 12 + 2 = 10 + 2 = 12 \end{aligned}$$

35)  $(5 - 2(3 - 8)) - 4^2$

Solution:

$$\begin{aligned} &(5 - 2(3 - 8)) - 4^2 \\ &= (5 - 2(-5)) - 4^2 \\ &= (3(-5)) - 4^2 \\ &= (-15) - 4^2 \\ &= -15 - 16 \\ &= -31 \end{aligned}$$

**Without working the problem, use critical thinking to determine which answers are unreasonable:**

36)  $6\frac{1\#}{1\#} - 11\frac{\#}{1\#}$

a)  $5\frac{2}{7}$     b)  $-5\frac{2}{7}$     c)  $17\frac{6}{7}$     d)  $-17\frac{6}{7}$     e)  $4\frac{5}{7}$

37) Convert  $-\frac{\#}{1\#}$  into a decimal.

a)  $\approx 0.273$     b)  $\approx -0.273$     c) 3.8    d)  $-3.8$     e)  $-5.19$

38)  $(-6.\#) \div (-3.\#)$

a)  $\approx -1.74$     b)  $\approx 1.75$     c)  $\approx 1.74$     d)  $\approx -0.574$     e)  $\approx 0.574$

39) The average of  $-3.\#, 2.\#, -4.7, -0.\#, 3.\#, -1.\#,$  and  $5.4$ .

a)  $-0.2$     b)  $0.3$     c)  $1.1$     d)  $-5.8$     e)  $6.1$

40)  $\left| \frac{\#}{\#} + \frac{\#}{1\#} \left( \frac{\#}{\#} - \frac{\#}{\#} \right) - \frac{1\#}{1\#} \right|$

a)  $\frac{9}{14}$     b)  $-\frac{9}{14}$     c)  $-\frac{5}{21}$     d)  $\frac{5}{21}$     e)  $-\frac{6}{7}$

**Answers:**

- 1a)  $>$     1b)  $<$     2a)  $>$     2b)  $<$     3a)  $-11.2$     3b)  $24.6$     4a)  $5.2$   
 4b)  $\frac{15}{41}$     5)  $-1.9$     6)  $15$     7)  $-101$     8)  $-1$     9)  $-2.8$     10)  $-480$   
 11)  $2\frac{3}{7}$     12)  $-\frac{5}{24}$     13)  $\frac{6}{7}$     14)  $10$     15)  $-\frac{9}{100}$     16)  $-4$     17)  $48$   
 18)  $-\frac{7}{72}$     19a)  $0$     19b) undefined    20)  $110\frac{11}{14}$     21)  $-2$     22)  $0.23$   
 23)  $-16$     24) width =  $2(L + (-3))$     25) share =  $w \div 8$     26) Leroy's age =  $3J - 4$   
 27) Mean =  $-13\frac{6}{7}^{\circ}$  F, Mode =  $-17^{\circ}$  F    28) 16 yard line    29a) Average =  $-\$7.80$ ,  
 29b) Median =  $\$3.19$     30)  $-\$35$     31)  $19$     32)  $-4.1$     33)  $-\frac{55}{36}$     34)  $16$   
 35)  $-1$     36) all    37) a, c, d, & e    38) a, d, & e    39) d & e    40) b, c, & e