Math 1010 Chapter 2 Test

Instructor: Lorie Hughes

DO NOT write on this test! Place all your answers on the bubble sheet provided. Good luck and have fun!

In problems 1-6, solve the equations. (3pts each)

1) $6x - 12 = 5x - 8$

A) {-4} B) {3} C) {5} D) {4}

2) $-\frac{6}{7}x = -18$

A) $\left\{\frac{132}{7}\right\}$ B) $\{\frac{108}{7}\}$ C) $\left\{\frac{120}{7}\right\}$ D) {21}

3) $\frac{1}{4}x - 3 = -\frac{3}{4}x$

A) {3} B) {-3} C) {-7} D) {7}

4) $-7b + 7 + 5b = -3b + 12$

A) { -12 } B) { -7 } C) { 5 } D) { 12 }

5) $6 - (x - 2) = -6x + 5(x + 10)$

A) $\left\{\frac{42}{0}v\right\}$ B) $\{21\}$ C) {all real numbers} D) $\emptyset$

6) $-6(x + 4) = -(6x + 24)$

A) {0} B) {4} C) {all real numbers} D) ∅

Problems 7-9 solve the word problems. (5pts each)

7) In the previous baseball season, team A won the most games of any major league team. Team A won 134 less than three times as many games as they lost. They played 162 regular-season games. How many wins and losses did team A have?

A) Wins: 88; losses: 74
B) Wins: 86; losses: 76
C) Wins: 88; losses: 75
D) Wins: 89; losses: 73

8) Find the measure of an angle, if its supplement measures 58° more than twice its complement.

A) 58° B) 68° C) 116° D) 32°

9) The formula for the perimeter of a rectangle is $P = 2L + 2W$. If $P = 52$ and $W = 10$, find the value of L.

A) 14 B) 15 C) 13 D) 16

Solve the proportions in proablems 10 and 11. (3pts each)

10) $\frac{x}{5} = \frac{20}{25}$

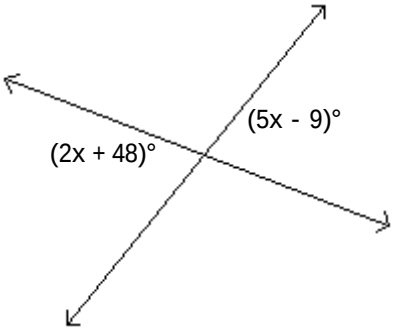
A) {4} B) $\left\{\frac{104}{5}\right\}$ C) {5} D) $\left\{\frac{4}{5}\right\}$

11) $\frac{x + 6}{5} = \frac{x + 8}{7}$

A) {1} B) {-1} C) {2} D) {-2}

Find the measure of each marked angle. (3pts each)

12)



A) 86° and 4° B) 83° and 83° C) 86° and 94° D) 86° and 86°

For 13-15, solve the application problems. (5 pts each)

13) Which is the better buy for ham slices, 32 ounces for $19.84 or 28 ounces for $16.80?

A) Not enough information
B) 32 ounces for $19.84
C) 28 ounces for $16.80
D) Both are equal values.

Solve the problem.

14) Paul Nagel invested some money at 4.5% simple interest and $10,000 more than that amount at 3% simple interest. After 1 year, his total interest from the two accounts was $1575. How much did he invest at each rate?

A) $17,000 at 4.5%; $27,000 at 3%
B) $18,000 at 4.5%; $27,000 at 3%
C) $17,000 at 4.5%; $28,000 at 3%
D) $18,000 at 4.5%; $26,000 at 3%

15) From a point on a straight road, two cars are driven in opposite directions, one at 48 miles per hour and the other at 58 miles per hour. In how many hours will they be 424 miles apart?

A) 4 hours
B) 5 hours
C) Not enough information
D) 3 hours

Solve the equation. (3pts)

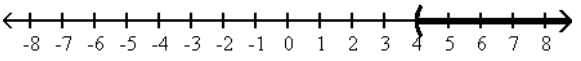
16) $|8m + 2| = 7$

A) $\left\{-\frac{5}{8}, \frac{9}{8}\right\}$ B) $\emptyset$ C) $\left\{\frac{5}{8}, -\frac{9}{8}\right\}$ D) $\left\{\frac{5}{2}, -\frac{9}{2}\right\}$

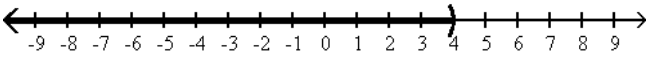
In 17 - 21, solve the inequalities and give the solution set in both interval and graph forms. (3pts each)

17) $-10x + 5(x - 6) \geq 7x - (2 + 2x) - 68$

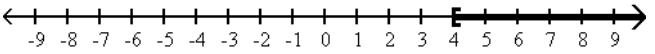
A) $(4, \infty)$



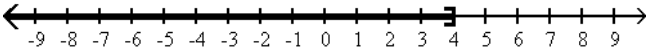
B) $(-\infty, 4)$



C) $[4, \infty)$

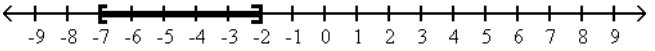


D) $(-\infty, 4]$

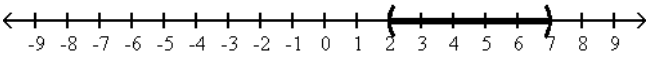


18) $-1 < 2t - 5 \leq 9$

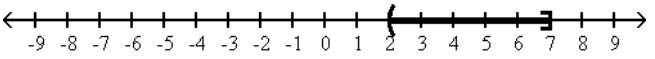
A) $[-7, -2]$



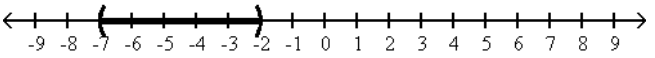
B) $(2, 7)$



C) $(2, 7]$

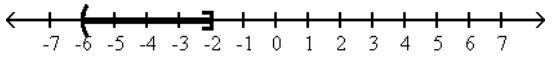


D) $(-7, -2)$

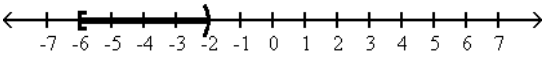


19) $7x - 8 \geq -50$ and $7x - 8 \leq -22$

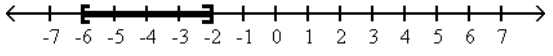
A) $(-6, -2]$



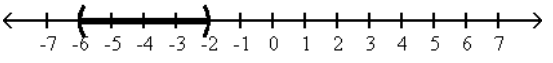
B) $[-6, -2)$



C) $[-6, -2]$

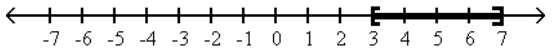


D) $(-6, -2)$

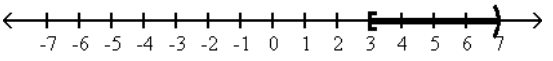


20) $10 \leq 4x - 2$ and $9x + 6 < 69$

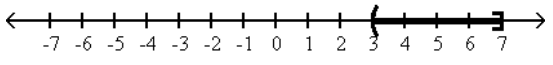
A) $[3, 7]$



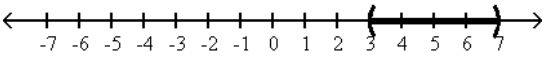
B) $[3, 7)$



C) $(3, 7]$

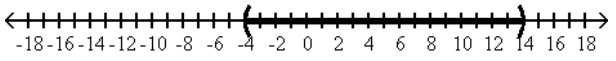


D) $(3, 7)$

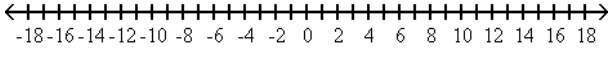


21) $|r - 5| > 9$

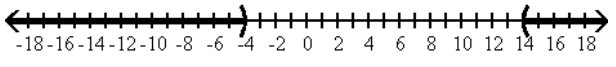
A) $(-4, 14)$



B) $\emptyset$



C) $(-\infty, -4) \cup (14, \infty)$



D) $(14, \infty)$