

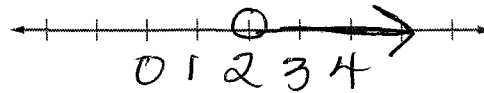
NAME

*Key*

7ACL FINAL EXAM REVIEW PART 2 (#1)

1) Solve and graph the inequality:  $-4(2+x) < -16$

$$\begin{array}{r} -4(2+x) < -16 \\ -8 - 4x < -16 \\ +8 \quad +8 \\ \hline -4x < -8 \\ -4 \quad -4 \\ \hline x > 2 \end{array}$$



b) Graph the solution on the number line:

2.) Solve and check:  $4\frac{1}{2} + \frac{3}{2}(x-3) = 15 - 2.5(x+2)$

$$4\frac{1}{2} + \frac{3}{2}x - \frac{9}{2} = 15 - 2.5x - 5$$

$$\begin{array}{r} \frac{3}{2}x = 10 - 2.5x \\ +2.5x \quad +2.5x \\ \hline 4x = 10 \end{array}$$

$$\begin{array}{r} \frac{4x}{4} = \frac{10}{4} \\ x = 2\frac{1}{2} \end{array}$$

CL:

$$4\frac{1}{2} + \frac{3}{2}(2\frac{1}{2} - 3) = 15 - 2.5(2\frac{1}{2} + 2)$$

$$4\frac{1}{2} + \frac{3}{2}(\frac{1}{2}) = 15 - 2.5(4\frac{1}{2})$$

$$4\frac{1}{2} - \frac{3}{4} = 15 - 11.25$$

$$3\frac{3}{4} = 3.75 \quad \checkmark$$

3.) It costs \$12 to attend a golf clinic with a local pro. Buckets of balls for practice during the clinic cost \$3 each. If you pay \$30, write and solve an equation to determine how many buckets you can purchase.

$$\begin{array}{r} 12 + 3x = 30 \\ -12 \quad -12 \\ \hline 3x = 18 \\ \frac{3x}{3} = \frac{18}{3} \\ x = 6 \end{array}$$

You can purchase 6 buckets of balls.

4.) Mary is purchasing 5 books at \$7.50 each. Find her final cost after a 20% discount and an 8% sales tax.

$$\begin{aligned} \text{Cost } 7.50(5) &= 37.50 \\ \text{dis. } 37.50(.2) &= 7.50 \\ \text{Sales price } 37.50 - 7.50 &= 30.00 \\ \text{tax } 30.00(.08) &= 2.40 \\ \text{Total } 30.00 + 2.40 &= 32.40 \end{aligned}$$

$$\begin{aligned} \text{Cost } 7.50(5) &= 37.50 \\ \text{Sales price after discount } 37.50(.8) &= 30.00 \\ \text{Total price with tax } 30.00(1.08) &= 32.40 \end{aligned}$$

5.) A survey was conducted and 12 out of 25 prefer a comedy.

a) What is the experimental probability that the next person surveyed will prefer a comedy?

$$\frac{12}{25}$$

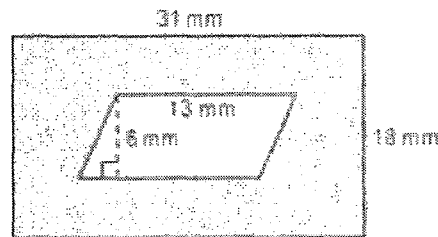
b) If 200 people were surveyed, how many people should you expect to prefer a comedy?

$$\begin{aligned} \frac{12}{25} &= \frac{x}{200} \\ 25x &= 2400 \\ x &= \frac{2400}{25} \\ x &= 96 \text{ people} \end{aligned}$$

6.) Calculate the area of the shaded region.

$$\begin{aligned} A &= lw & A &= bh \\ A &= 31(18) & A &= 13(6) \\ A &= 558 & A &= 98 \text{ mm}^2 \end{aligned}$$

$$\begin{aligned} A_{SR} &= 558 - 98 \\ A_{SR} &= 460 \text{ mm}^2 \end{aligned}$$



7.) Using the diagram below, find the following:

In the figure at the right,  $c \parallel d$  and  $p$  is a transversal. If  $m\angle 5 = 5x - 8^\circ$  and  $m\angle 8 = 3x + 20$ , find the value of  $x$  and the measures of each angle.

$$5x - 8 + 3x + 20 = 180$$

$$8x + 12 = 180$$

$$\frac{-12 \quad -12}{8x = 168}$$

$$\frac{168}{8} = \frac{168}{8}$$

$$x = 21$$

$$5x - 8$$

$$5(21) - 8$$

$$105 - 8$$

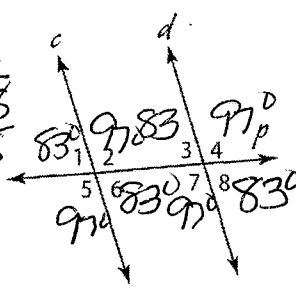
$$97^\circ$$

$$3x + 20$$

$$3(21) + 20$$

$$63 + 20$$

$$83^\circ$$

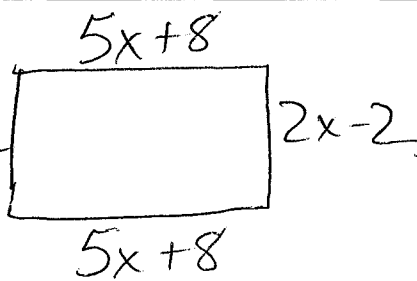


1.  $\angle 6 = 83^\circ$
3.  $\angle 2 = 97^\circ$
5.  $\angle 3 = 83^\circ$

2.  $\angle 7 = 97^\circ$
4.  $\angle 4 = 97^\circ$
6.  $\angle 1 = 83^\circ$

8.) A rectangle has a length of  $(5x + 8)$  and a width of  $(2x - 2)$ .

a) Express the perimeter in simplest form.  $14x + 12$

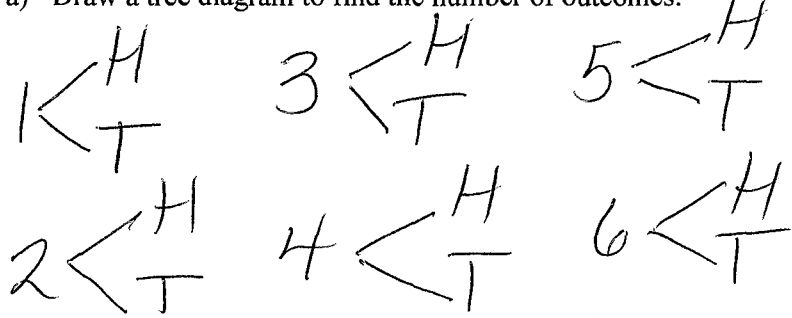


b) Factor your answer.  $2(7x + 6)$   $\frac{2(14x + 12)}{7x + 6}$

9) John is rolling a die and tossing a coin.

a) Draw a tree diagram to find the number of outcomes.

$$6 \cdot 2 = 12 \text{ outcomes}$$



b) How many possible outcomes are there?  $12$

c)  $P(\text{even \#, heads}) = \frac{1}{4}$   
 $\frac{1}{2} \cdot \frac{1}{2} = \frac{1}{4}$

10.) Using the following equation below, identify the slope, y intercept and then graph.

Slope:  $\frac{\Delta y}{\Delta x} = \frac{-2}{1}$

Y intercept:  $4(0,4)$

$$\begin{aligned} 4x + 2y &= 8 \\ -4x \quad -4x & \\ \hline 2y &= -4x + 8 \\ \frac{2y}{2} &= \frac{-4x}{2} + \frac{8}{2} \\ y &= -2x + 4 \end{aligned}$$

$$\begin{aligned} y &= mx + b \\ y &= -2x + 4 \end{aligned}$$

