Accel Algebra
Unit 1 Quiz 2 Practice

Name Key

Period _____ Date _____

1. Simplify or Solve

a. $2x + 3(x + 2 - y) - 12$

$2x+3x+6-3y-12$

$\boxed{5x-3y-6}$

b. $\frac{1}{2}(8+3) \div 2.5$

$\frac{1}{2}(11)-2.5$

$5.5-2.5 = \boxed{3}$

c. $4-\frac{(y+2)}{3}=0$

$-\frac{(y+2)}{3}=-4$

$-(y+2)=-12$

$y+2=12$

$\boxed{y=10}$

d. $\frac{1}{2}(5x+2) \le \frac{7}{2}x$ · 2

$5x+2 \le 7x$

$2 \le 2x$

$1 \le x$

$\boxed{x \ge 1}$

e. $2|7-12| \div 5$

$2|-5| \div 5$

$2(5) \div 5$

$10 \div 5$

$\boxed{2}$

f. $\frac{3(x-4)}{2} - 14 = x - 11$

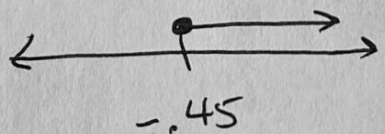
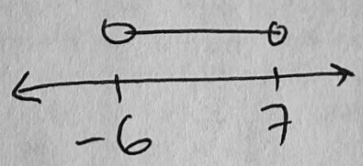
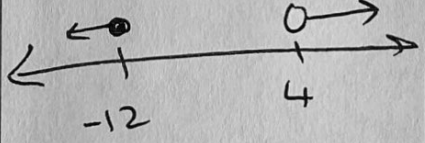
$\frac{3(x-4)}{2} = x+3$

$3x-12=2x+6$

$x-12=6$

$\boxed{x=18}$

2. Solve each inequality or compound inequality below. Show your solution in three ways

	Inequality	Graph	Interval
a.	$9.6+9a \ge 0.75(8a+11)$ $9.6+9a \ge 6a+8.25$ $3a \ge -1.35$ $\boxed{a \ge -.45}$		$[-.45, \infty)$
b.	$-4 < 5t - 3(2t-1) < 9$ $-4 < 5t-6t+3 < 9$ $-4 < -t+3 < 9$ $-7 < -t < 6$ $7 > t > -6 \Rightarrow \boxed{-6 < t < 7}$		$(-6, 7)$
c.	$-5-x \ge 7$ or $\frac{-x}{4} < -1$ $-x \ge 12$ $\quad -x < -4$ $\boxed{x \le -12 \text{ or } x > 4}$		$(-\infty, -12] \cup (4, \infty)$

3. Decide if the situation could best be modeled by an equation or inequality and then solve. Write what the solution means in a complete sentence.

a. Find three consecutive odd numbers whose sum is 201. Would it be possible for three consecutive even numbers to have a sum that is odd?

$x+(x+2)+(x+4)=201$

$3x+6=201$

$3x=195$

$x=65$

The 3 consecutive odd numbers are 65, 67, and 69

It is not possible for 3 consecutive even numbers to have a sum that is odd.

b. Julie only has $60 to spend. She wants a drink that costs $1.50 including tax and she wants to buy a pair of pants, which has a 7% sales tax. What is the inequality that represents the amount of money she has to spend?

A. $x+.07x+1.50>60$
B. $x+.07x+1.50\geq 60$
C. $x+.07x+1.50<60$
D. $x+.07x+1.50\leq 60$

c. Tina wanted to see the theatrical production *Wicked*. She ordered 6 tickets online and had to pay a 3% service charge plus $4.90 for shipping. If her total was $283.00, what was the cost of each ticket?

$6x+.03(6x)+4.9=283$

$X=\$45$

$45 is the cost of 1 ticket

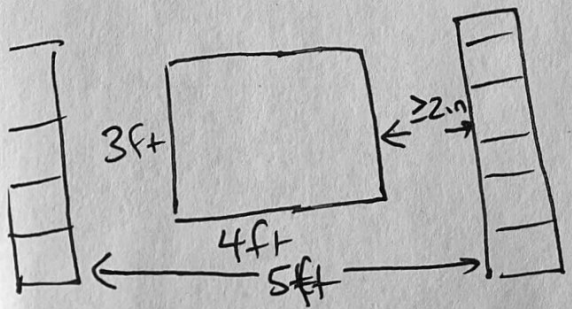
d. Dan has a long distance phone plan that charges 10 cents a minute. The monthly service charge which includes all taxes is $25.85. Dan has budgeted $50.00 a month for his phone bill. What is the maximum number of long distance minutes that Dan can use?

$.1m+25.85\leq 50$

$m\leq 241$ minutes

Dan can use at most 241 minutes to keep within his budget

e. Jack has a painting that measures 3 ft tall by 4 ft wide. Jack wants to get the painting matted and framed and hang it in between two bookshelves. The distance between the bookshelves is 5 feet. Assuming he wants to leave 2 inches on either side of the bookshelf, what's the maximum number of inches he can use for the matting and frame?



Convert ft to inches

$3ft=36in$

$4ft=48in$

$5ft=60in$

$2x+2(2)+48\leq 60$

$2x+52\leq 60$

$2x\leq 8$

$x\leq 4$

The max number of inches for matting and frame is