Name _____ Date _____

***Ready*® Mathematics**

Unit 3 Unit Assessment

Form B

Solve the problems.

1 Steve provides lawn care services in his neighborhood. For each lawn he charges a flat fee of $6 for clean-up and $10 per hour. Write an equation to represent the relationship between the total charge, *c*, and the number of hours he works, *h*.

2 What is the constant in the expression $9x^3 + 3x^2 + 4 + 5x$?

A 9

B 3

C 4

D 5

3 A company sells speakers for $23 each. At the end of the week, they have sold $851 worth of speakers. How many speakers did they sell? Write and solve an equation to find the answer.

Show your work.

The company sold _____ speakers.

4 Donna opens a savings account with an initial balance of $50. She then deposits $25 each month. Use an equation, a table, and a graph to explain the relationship between the amount of money in the account, *a*, and the number of months since Donna opened the account, *m*.

Part A

Write an equation to represent the problem. Explain how the value of *a* changes as *m* increases.

_____

_____

_____

Part B

Make a table to show the relationship between *m* and *a*. Find 5 ordered pairs.

Part C

Use your table from Part B to draw a graph to represent the situation.

5 Which value makes the equation $4x - 5 = 43$ true?

A 10

B 12

C 14

D 16

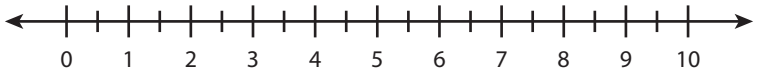
6 Brandon wants to practice his trombone for at least 5.5 hours this week.

Part A

Write an inequality to represent the number of hours Brandon will spend practicing this week.

Part B

Graph the solution to your inequality from Part A on the number line below.



7 Which expression is equivalent to $45x - 15x$? Choose all that apply.

A 30

B $30x$

C $60x$

D $x(45 - 15)$

E $x(45 - 15x)$

8 Jen accidentally knocks a framed poster off the wall, breaking the protective glass piece. The glass piece has side length x and she needs to buy a new piece of glass to replace it.

Part A

Write a variable expression for the area of the glass piece Jen needs to replace.

Part B

If the protective glass piece is 25 in. wide, what is the area of the glass piece Jen needs to replace?

Part C

If Jen has a budget of $150, what is the most she can pay per square inch of glass to replace the glass piece described in Part B? Explain.

9 Consider the possible solution to each inequality. Choose *Yes* or *No* for each question.

a. Is 8 a solution of $x + 13 < 21$? ☐ Yes ☐ No

b. Is 10 a solution of $6 - x \geq -4$? ☐ Yes ☐ No

c. Is 4.6 a solution of $28.5 \leq 6x$? ☐ Yes ☐ No

d. Is 3.9 a solution of $15x < 60.2$? ☐ Yes ☐ No

e. Is -5 a solution of $-6x > 24$? ☐ Yes ☐ No

10 If each equation below is solved for x, for which equation is $x = 6$ the solution? Choose all that apply.

A $7x = 42$

B $8x = 14$

C $9x = 54$

D $29 - x = 35$

E $x - 11 = -5$

11 Evaluate: $(7 - 2)^2 + 3 \div \frac{1}{6}$.