Honors Algebra 2 – Summative Assessment – Unit 1

Community Personalization Progress Purpose

Name: _____

Unit 1 Summer Summative Assessment Answer Sheet

1.1 Apply Properties of Real Numbers

1. _____
4. _____
15. _____
20. _____
23. _____

1.2 Evaluate and Simplify Algebraic Expressions

4. _____
7. _____
32. _____
33. _____
43. _____

1.3 Solve Linear Equations

4. _____
7. _____
24. _____
25. _____
35. _____

1.4 Rewrite Formulas and Equations

7. _____
14. _____
20. _____
24. _____
30. _____

1.5 Use Problem Solving Strategies and Models

1. _____
5. _____
11. _____
12. _____
14. _____

1.6 Solve Linear Inequalities

7. _____
9. _____
18. _____
26. ___See Worksheet for graph____
29. _____

1.7 Solve Absolute Value Equations and Inequalities

10. _____
19. _____
25. _____
39. _____
43. _____

1.1 Apply Properties of Real Numbers

Graph the numbers on a number line. Decide which number is greater and use the symbol < or > to show the relationship.

1. -5 and -6

Write the numbers in increasing order.

4. $3, \sqrt{10}, \frac{3}{4}, -1.5$

Select and perform an operation to answer the question.

15. What is the difference of -4 and -3?

Give the answer with the appropriate unit of measure.

20. $-5\frac{1}{4}$ inches $- 2\frac{2}{3}$ inches

23. **Touchdown** A football team scored 24 of their 28 points from touchdowns. A touchdown is worth 6 points. How many touchdowns did the team score?

1.2 Evaluate and Simplify Algebraic Expressions

Write the expression using exponents.

4. 4 to the third power

Evaluate the expression.

7. 5^2

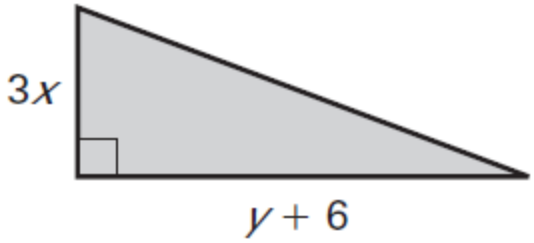
Evaluate the expression for the given value of *x*.

32. $23 - \frac{2}{3}x$ when $x = 9$

33. $x(\sqrt{x} + 1)$ when $x = 16$

Write an expression for the area of the figure. Evaluate the expression for the given values of the variables.

43. $x = 1, y = 2$



1.3 Solve Linear Equations

Describe the error if one exists. Solve incorrect problems showing the correct steps.

4. $4x + 1 = 12$

$4x = 13$

$x = \frac{13}{4}$

7. $3(x - 2) = 5(4 + x)$

$3x - 6 = 20 + 5x$

$8x - 6 = 20$

$8x = 26$

$x = \frac{13}{4}$

Solve the equation. Check your solution.

24. $3x = 16$

25. $x + \frac{3}{2} = \frac{3}{4}$

35. Perimeter An equilateral triangle has sides of equal length. Find the dimensions of an equilateral triangle with a perimeter of 45 inches.

1.4 Rewrite Formulas and Equations

Substitute the given value of *x* into the equation. Then solve the equation for *y*.

7. $8x + 6y = 12; x = -3$

Solve the equation for *y*. Then find the value of *y* for the given value of *x*.

14. $\frac{1}{2}x - y = 3; x = 3$

Solve the formula for the indicated variable.

20. *Circumference of a Circle*
Solve for r: $C = 2\pi r$

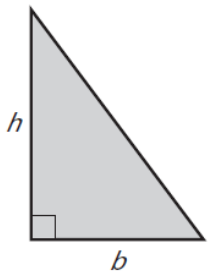
24. *Area of a Parallelogram*
Solve for b: $A = bh$

Solve the formula for the indicated variable. Then use the given information to find the value of the variable. Include units of measure in the answer.

30. *Area of a Triangle*

Solve for h: $A = \frac{1}{2}bh$

Find h when $A = 6$ ft^2 and $b = 3$ ft.



1.5 Use Problem Solving Strategies and Models

Use the formula $d = rt$ for distance traveled to solve for the missing variable.

1. $d =$ __?__, $r = 35$ miles per hour, $t = 2$ hours

Use the formula $A = bh$ for the area of a parallelogram to solve for the missing variable.

5. $A =$ __?__, $b = 2$ feet, $h = 2$ feet

Look for a pattern in the table. Then write an equation that represents the table.

11.

x	0	1	2	3
y	17	27	37	47

12.

x	0	1	2	3
y	150	125	100	75

14. **Amusement Park Trip** Your travel arrangements to an amusement park include a round trip driving distance of 216 miles. The planned travel time is 4 hours. What must your average speed be to make the trip in the allotted time?

Decide whether the given number is a solution of the inequality.

7. $2x + 1 > 3;\ 1$

9. $3x + 3 < -7;\ -3$

Solve the inequality.

18. $-\frac{1}{2}x < -7$

Solve the inequality and then graph the solution.

26. $3x + 2 > 18 - x$

29. Earth Temperatures The minimum and maximum surface temperatures on Earth are −126°F and 136°F respectively. Write an inequality that represents the various surface temperatures on Earth.

1.7 Solve Absolute Value Equations and Inequalities

Rewrite the absolute value equation as two linear equations.

10. $|7x - 3| = 4$

Solve the equation.

19. $|7 - 2x| = 5$

Rewrite the absolute value inequality as a compound inequality.

25. $|4x + 2| \leq 7$

Solve the inequality.

39. $|2x - 4| > 1$

43. **Tire Pressure** A tire manufacturer suggests that the tire pressure for a certain tire style should be within 2 PSI of the recommended operating pressure of 32 PSI. Write an absolute value inequality that represents the range of pressures the tire should sustain under normal conditions.