Lesson 30

Foundations of College Algebra

Review

1. Simplify.

$$\sqrt{36} \div \sqrt{9} + 2^2 \cdot 7 - 17$$

2. Find the prime factorization of the following number. Write any repeated factors using exponents.

$$588$$

3. Multiply. Write the answer in simplest form.

$$1\frac{1}{6} \cdot \frac{6}{49}$$

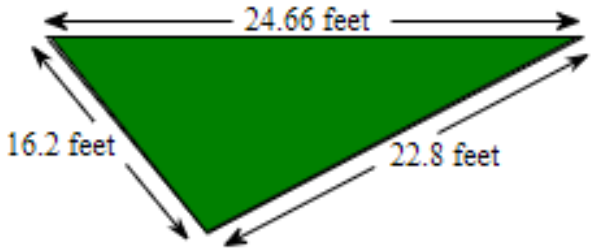
4. Divide. Write your answer in simplest form.

$$\frac{2}{33} \div \frac{10}{143}$$

5. Add and simplify.

$$\frac{3}{66} + \frac{3}{55}$$

6. A landscape architect is planning a border for a flower garden shaped like a triangle. The sides of the garden measure 16.2 feet, 24.66 feed, and 22.8 feet. Find the amount of border material needed.



7. A self-tanning lotion advertises that a 2-oz bottle will provide four applications. Jen found a great deal on a 13-oz bottle of the self-tanning lotion she had been using. Based on advertising claims, how many applications of the self-tanner should Jen expect?

8. In 1999, total revenue of a music company from music sales and licensing was $14.3 billion. It was forecasted that this number would continue to drop until it reached $5.5 billion in 2014. Find this percent decrease in music revenue.

9. The sales tax is $115.50 on a stereo system purchase of $1650. Find the sales tax rate.

10. Sketch the right triangle and find the length of the side not given. (Each length is in units.)

$$\text{leg} = 10, \text{leg} = 12$$

11. Decide whether the given number is a solution of the given equation.

$$\frac{x}{2} - 1 = -2; \qquad x = 6$$

12. Solve the equation.

$$-4(n-2) = 6 - 3n$$

13. Solve the equation.

$$6x + 1 = 9x + 7$$

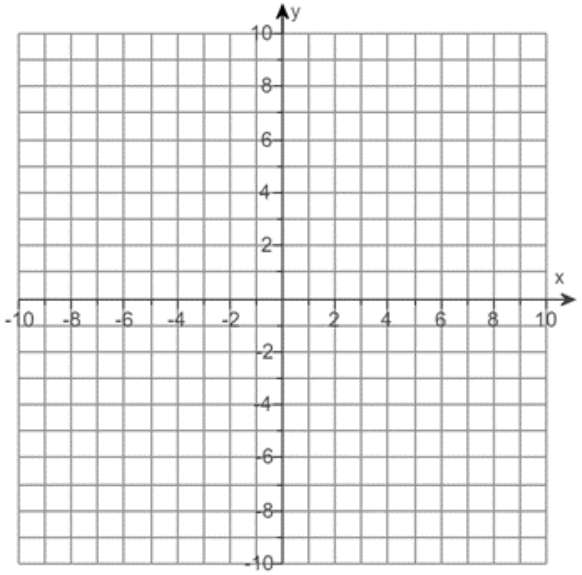
14. Solve the equation for x.

$$\frac{3}{4}x - \frac{1}{2} = 7$$

15. Solve the inequality. Write your answer in set notation.

$$8(x+1)-7x \geq -5$$

16. Graph the linear equation. $x+1=0$



17. Write an equation of the line with the given slope, m, and y-intercept $(0, b)$.

$$m=-\frac{3}{4}, b=\frac{1}{2}$$

18. Use the product rule to simplify the expression. Write the results using exponents.

$$(4z^{11})(-6z^{8})(z^{2})$$

19. Subtract.

$$(4z^2 - 10z + 7) - (10z^2 + 2z - 9)$$

20. Multiply using the FOIL method.

$$(y^2 + 4)(2y + 5)$$

21. Factor the trinomial completely.

$$x^2 - x - 42$$

22. Solve the equation.

$$x^2 - 13x + 36 = 0$$