

Name: _____

Math 1

Unit 1.1

Examples of Simplifying Expressions

Use the Distributive Property to simplify each expression.

1. $4(2 - c)$ _____

2. $(-7r - 2)8$ _____

3. $5(3x + 5)$ _____

4. $(5 + 6d)7$ _____

5. $(3f + 1)2.3$ _____

6. $6\left(\frac{1}{2}h - 4\right)$ _____

7. $1\left(-\frac{1}{3}r + \frac{4}{7}\right)$ _____

8. $\frac{2}{3}\left(\frac{1}{4}n - \frac{2}{5}\right)$ _____

9. $-(-9 + 5z)$ _____

10. $-(w - 3)$ _____

11. $-(8.5e + 2.4y)$ _____

12. $-(g - 5h + 8)$ _____

Write each fraction as a sum or difference. Simplify fractions.

13. $\frac{12+8x}{17}$ _____

14. $\frac{6p+9}{6}$ _____

15. $\frac{14n+24}{15}$ _____

16. $\frac{18g-36}{9}$ _____

Simplify each expression by combining like terms.

17. $15x - 17x$ _____

18. $16m^2 - 9m^2$ _____

19. $8y + 3 - 5 - 9y$ _____

20. $-2(6xy - 5)$ _____

21. $-14mn + mn - 10mn + 7mn$ _____

22. $-5m^2n + 7m^2n^2 - 4m^2n - 5m^3n^2 - 7mn^2$ _____

23. $6(m - 8) + 5(7 - 2m)$ _____

24. $a + \frac{4a}{5} - \frac{2a}{5}$ _____

Write a word phrase for each expression. Then simplify each expression.

25. $1(m + 2)$ word phrase: _____

Simplified expression: _____

26. $-7(y - 5)$ word phrase: _____

Simplified expression: _____

27. $\frac{1}{3}(9m + 6)$ word phrase: _____

Simplified expression: _____

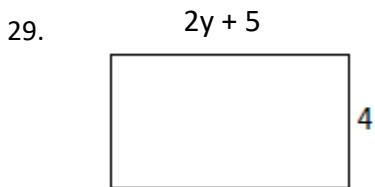
28. The tax a plumber must charge for a service call is given by the expression $0.05(25 + 35h)$ where h is the number of hours the job takes. Rewrite this expression using the Distributive Property. What is the tax for a 5 hour job and a 20 hour job?

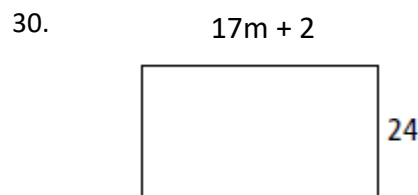
Rewrite this expression: _____

Tax for 5 hour job: _____

Tax for 20 hour job: _____

Geometry: Write an expression in simplified form for the area of each rectangle.





31. Reasoning: Demonstrate why $\frac{10y+5}{5} \neq 2y + 5$. Show your work.

Unit 1.1

Examples of Simplifying Expressions

Use the Distributive Property to simplify each expression.

$$1. 4(2 - c) \quad 4 \times 2 + 4 \times (-c)$$

$$8 + (-4c)$$

$$8 - 4c$$

$$3. 5(3x + 5) \quad 15x + 25$$

$$5. (3f + 1)2.3 \quad 6.9f + 2.3$$

$$7. 1\left(-\frac{1}{3}r + \frac{4}{7}\right) \quad -\frac{1}{3}r + \frac{4}{7}$$

$$9. -(-9 + 5z) \quad 9 - 5z$$

$$11. -(8.5e + 2.4y) \quad -8.5e - 2.4y$$

Multiply the outside term to each inside term

$$2. (-7r - 2)8 \quad (-7r) \times 8 + (-2) \times 8$$

$$-56r + (-16)$$

$$-56r - 16$$

$$4. (5 + 6d)7 \quad 35 + 42d$$

$$6. 6\left(\frac{1}{2}h - 4\right) \quad 3h - 24$$

$$8. \frac{2}{3}\left(\frac{1}{4}n - \frac{2}{5}\right) \quad \frac{1}{6}n - \frac{4}{15}$$

$$10. -(w - 3) \quad -w + 3$$

$$12. -(g - 5h + 8) \quad -g + 5h - 8$$

Write each fraction as a sum or difference. Simplify fractions.

$$13. \frac{12+8x}{17} \quad \frac{12}{17} + \frac{8x}{17}$$

$$14. \frac{6p+9}{6} \quad p + \frac{3}{2}$$

$$15. \frac{14n+24}{15} \quad \frac{14n}{15} + \frac{8}{5}$$

$$16. \frac{18g-36}{9} \quad 2g - 4$$

Simplify each expression by combining like terms.

$$17. 15x - 17x \quad -2x$$

$$18. 16m^2 - 9m^2 \quad 7m^2$$

$$19. 8y + 3 - 5 - 9y \quad -y - 2$$

$$20. -2(6xy - 5) \quad -12xy + 10$$

$$21. -14mn + mn - 10mn + 7mn \quad -16mn$$

$$22. -5m^2n + 7m^2n^2 - 4m^2n - 5m^3n^2 - 7mn^2 \quad -9m^2n + 7m^2n^2 - 5m^3n^2 - 7mn^2$$

$$23. 6(m - 8) + 5(7 - 2m) \quad -4m - 13$$

$$24. a + \frac{4a}{5} - \frac{2a}{5} \quad \frac{7a}{5}$$

Math 1 Unit 1.1 continued

Write a word phrase for each expression. Then simplify each expression.

25. $1(m + 2)$ word phrase: _____

One multiplied by the quantity of a number plus two.

Simplified expression: $m + 2$

26. $-7(y - 5)$ word phrase: _____

Negative seven multiplied by the quantity of a number minus five.

Simplified expression: $-7y + 35$

27. $\frac{1}{3}(9m + 6)$ word phrase: _____

One third multiplied by the quantity of nine times a number plus six.

Simplified expression: $3m + 2$

28. The tax a plumber must charge for a service call is given by the expression $0.05(25 + 35h)$ where h is the number of hours the job takes. Rewrite this expression using the Distributive Property. What is the tax for a 5 hour job and a 20 hour job?

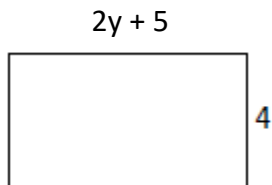
Rewrite this expression: $1.25 + 1.75h$

Tax for 5 hour job: \$10

Tax for 20 hour job: \$36.25

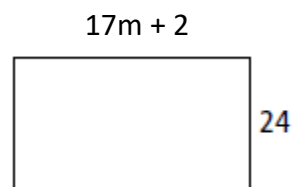
Geometry: Write an expression in simplified form for the area of each rectangle.

29.



$8y + 20$

30.



$408m + 48$

31. Reasoning: Demonstrate why $\frac{10y+5}{5} \neq 2y + 5$. Show your work.

$\frac{10y+5}{5}$ can be rewritten as $\frac{10y}{5} + \frac{5}{5}$. This reduces to $2y + 1$.

