

Algebra CC
Assignment #5
Equivalent Expressions

1. Use the Associative, Commutative and Distributive properties to write the expression given as an equivalent expression in simplest form.

(a) $2x + 8 + 3x - 3$

(b) $3x + (5x + 2x)$

(c) $(3x - 4) + (2x + 1)$

(d) $6(2 - 3x) + 1$

(e) $x + 4 - 2\left(\frac{1}{2}x + 3\right)$

(f) $3(x + 2) - 2(x + 1)$

(g) $\frac{12x + 18}{6}$

(h) $\frac{2(5x + 3) - 4}{2} + 1$

(i) $\frac{\frac{1}{2}(4x + 8) - 8}{2}$

2. Factor each of the following by using the distributive property.

(a) $14x + 21$

(b) $6 - 3x$

(c) $(2x + 4) + (3x - 14)$

3. Four friends have an assortment of Snack bars that cost S dollars each, Munch bars that cost M dollars each and Chewies that cost C dollars each that they sell to raise money for a trip they are taking. They decide to split the money from the sales evenly between the four friends. They create an expression to make sure everyone gets the same amount. The amount each friend receives is given by the complicated expression

$$\frac{(5C + 5S) + (2M + 4S) + (10C + M) + (C + 3S + M)}{4}$$

(a) Write an equivalent expression that simplifies the amount that each friend will earn in terms of the **unit costs** S , M , and C .

(b) If Snack bars cost \$3 each, Munch bars cost \$5 each and Chewies cost \$4.50 each, then how much does each friend earn?

R1. Evaluate $(2n + 1)^2$ when $n = 3$

R2. Evaluate $-4x^2 - 2x + 4$ when $x = -1$

R3. Evaluate $6x - 2x + 8$ for $x = -3$

R4. Evaluate $6(n - 1)(8 - n)$ when $n = -3$

R5. Use the distance formula, $D = rt$, to find the distance traveled if the rate = 40mph and the time = 40 minutes.

R6. Simplify: $3x(2x - 4)$

R7. Simplify: $(3x - 1)(2x + 5)$

R8. Use your calculator to evaluate $3\pi - 1.4^2$ and round to the nearest hundredth.

R9. Rebecca can walk a mile in 13 minutes. How far can she walk, to the nearest mile, in 3 hours?

R10. James' math homework consisted of 15 problems. It took him $\frac{3}{4}$ hour to complete his homework.

Assuming that each question took the same amount of time, how many minutes did it take to complete each question?

1. (a) $5x + 5$

(b) $10x$

(c) $5x - 3$

(d) $13 - 18x$ or $-18x + 13$

(e) -2

(f) $x + 4$

(g) $2x + 3$

(h) $5x + 2$

(i) $x - 2$

2. (a) $7(2x + 3)$

(b) $3(2 - x)$

(c) $5(x - 2)$

3. (a) $4c + 3s + m$

(b) \$32.00

R1. 49

R2. -2

R3. -16

R4. -264

R5. 1600

R6. $6x^2 - 12x$

R7. $6x^2 + 13x - 5$

R8. 7.46

R9. 14

R10. 3 minutes/problem