

Problem Set

Independent Practice: Lesson 1

For Problems 1–9, write equivalent expressions by combining like terms.

1. $3a + 5a$

2. $8b - 4b$

3. $5c + 4c + c$

4. $3a + 6 + 5a$

5. $8b + 8 - 4b$

6. $5c - 4c + c$

7. $3a + 6 + 5a - 2$

8. $8b + 8 - 4b - 3$

9. $5c - 4c + c - 3c$

Jack and Jill found the sum of $2x + 1$ and $5x$. Answer the following questions based on their answers.

10. Jack got the expression $7x + 1$ and then wrote his answer as $1 + 7x$. Is his answer an equivalent expression? How do you know?

11. Jill also got the expression $7x + 1$, and then wrote her answer as $1x + 7$. Is her expression an equivalent expression? How do you know?

Independent Practice: Lesson 2***Add Linear Expressions*****Add. Use models if needed.**

1. $(-x + 12) + (-4x + 2)$

2. $(-5x + 3) + (-7x - 1)$

3. $(-x + 3) + (4x - 10)$

4. $(5x + 4) + (-8x - 2)$

5. $(-7x + 1) + (4x - 5)$

6. $(6x - 2) + (-x + 5)$

7. $(-9x + 1) + (-7x + 8)$

8. $(-3x - 9) + (4x + 8)$

9. $(-9x - 12) + (x - 8)$

10. $(14x + 7) + (-3x + 2)$

Subtract Linear Expressions

1. $(5x + 7) - (x + 2)$

2. $(2x - 6) - (x - 7)$

3. $(-x + 12) - (-4x + 2)$

4. $(-5x + 3) - (-7x - 1)$

5. $(-x + 3) - (4x - 10)$

6. $(5x + 4) - (-8x - 2)$

7. $(-7x + 1) - (4x - 5)$

8. $(6x - 2) - (-x + 5)$

9. $(-9x + 1) - (-7x + 8)$

10. $(-3x - 9) - (4x + 8)$

Independent Practice: Module 3 Lesson 2 Day 2

1. Simplify each expression.

a. $3x + (2 - 4x)$	b. $3x + (-2 + 4x)$	c. $3x - (-2 + 4x)$
d. $3x + (-2 - 4x)$	e. $3x - (2 + 4x)$	f. $-3x - (-2 - 4x)$

2. Simplify each expression.

a. $4y - (3 + y)$	b. $(2b + 1) - b$	c. $(6c - 4) - (c - 3)$
d. $(d + 3d) - (-d + 2)$	e. $(-5x - 4) - (-2 - 5x)$	f. $11f - (-2f + 2)$
g. $(2g + 9h - 5) - (6g - 4h + 2)$	h. $(8h - 1) - (h + 3)$	i. $(7 + w) - (w + 7)$

3. Simplify each expression.

a. $-3(8x)$	b. $5 \cdot k \cdot (-7)$	c. $2(-6x) \cdot 2$
d. $-3(8x) + 6(4x)$	e. $8(5m) + 2(3m)$	f. $-6(2v) + 3a(3)$

4. Simplify each expression.

a. $\frac{8x}{2}$	b. $\frac{18w}{6}$	c. $\frac{25r}{5r}$
d. $\frac{33y}{11y}$	e. $\frac{56k}{2k}$	f. $\frac{24xy}{6y}$

Lesson 3 Homework

Problem Set

1. Use the distributive property to write the products in standard form.

a. $3(2x - 1)$

e. $(40s + 100t) \div 10$

b. $10(b + 4c)$

f. $(2b + 12) \div 2$

c. $9(g - 5h)$

g. $(14g + 22h) \div \frac{1}{2}$

d. $7(4n - 5m - 2)$

h. $a(b + c + 1)$

2. Write the expression in standard form by expanding and collecting like terms.

a. $4(8m - 7n) + 6(3n - 4m)$

b. $9(r - s) + 5(2r - 2s)$

b. $12(1 - 3g) + 8(g + f)$

Independent Practice: Lesson 4!

- Write each expression as the product of two factors.
 - $1 \cdot 3 + 7 \cdot 3$
 - $(1 + 7) + (1 + 7) + (1 + 7)$
 - $2 \cdot 1 + (1 + 7) + (7 \cdot 2)$
 - $h \cdot 3 + 6 \cdot 3$
- Write the sum as a product of two factors.
 - $81w + 48$
 - $10 - 25t$
 - $12a + 16b + 8$
- Write each sum as a product of two factors.
 - $2y \cdot 3 + 4 \cdot 3$
 - $3x + (2 + x) + 5 \cdot 2$
 - $f \cdot 6 + g \cdot 6$
 - $(c + d) + (c + d) + (c + d) + (c + d)$
- Write each expression in standard form.
 - $-3(1 - 8m - 2n)$
 - $5 - 7(-4q + 5)$
 - $-(2h - 9) - 4h$
- Xander goes to the movies with his family. Each family member buys a ticket and two boxes of popcorn. If there are five members of his family, let t represent the cost of a ticket and p represent the cost of a box of popcorn. Write two different expressions that represent the total amount his family spent. Explain how each expression describes the situation in a different way.

Independent Practice: Lesson 5!

- Write the sum, and then rewrite the expression in standard form by removing parentheses and collecting like terms.
 - $-x - 11$ and the opposite of -11
 - The opposite of $4x$ and $3 + 4x$
 - $2g$ and the opposite of $(1 - 2g)$
- Write the product, and then rewrite the expression in standard form by removing parentheses and collecting like terms.
 - $7h - 1$ and the multiplicative inverse of 7
 - The multiplicative inverse of -5 and $10v - 5$
 - The multiplicative inverse of $\frac{1}{4}$ and $5t - \frac{1}{4}$
- Write the expressions in standard form.
 - $\frac{1}{4}(4x + 8)$
 - $\frac{1}{6}(r - 6)$
 - $\frac{4}{5}(x + 1)$
 - $\frac{1}{8}(2x + 4)$
 - $\frac{1}{5}(10x - 5) - 3$

Independent Practice: Lesson 6!

1) Rewrite the expressions by collecting like terms.

a. $\frac{1}{2}k - \frac{3}{8}k$

b. $-\frac{1}{3}a - \frac{1}{2}b - \frac{3}{4} + \frac{1}{2}b - \frac{2}{3}b + \frac{5}{6}a$

c. $\frac{5}{7}y - \frac{y}{14}$

2) Rewrite the expressions by using the distributive property and collecting like terms.

a. $\frac{4}{5}(15x - 5)$

b. $-\frac{3d+1}{5} + \frac{d-5}{2} + \frac{7}{10}$

c. $8 - 4\left(\frac{1}{8}r - 3\frac{1}{2}\right)$

d. $\frac{2}{3}\left(h + \frac{3}{4}\right) - \frac{2}{3}\left(h - \frac{3}{4}\right)$

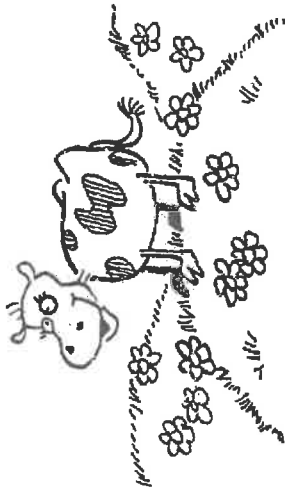
e. $\frac{1}{4}(p+4) + \frac{3}{5}(p-1)$

f. $\frac{3(5g-1)}{4} - \frac{2g+7}{6}$

g. $\frac{2}{3}\left(h + \frac{3}{4}\right) - \frac{1}{3}\left(h + \frac{3}{4}\right)$

h. $\frac{3t+2}{7} + \frac{t-4}{14}$

Why Was the Little Cow Standing Alone In a Big Field of Beautiful Flowers?



Write the letter of each exercise in the box containing the answer.

Set 1. Find the difference.

- (H) $3 - 8$ (D) $-6 - (-2)$
 (E) $-7 - 2$ (E) $12 - (-12)$
 (R) $5 - (-1)$ (M) $-3 - (-7)$
 (A) $10 - 3$ (H) $-30 - 20$
 (O) $-4 - (-9)$ (R) $20 - 30$
 (H) $1 - 16$ (T) $30 - 20$

Set 2. Find the difference.

- (E) $-11 - (-4)$ (A) $8 - (-13)$
 (D) $-6 - 2$ (O) $72 - 60$
 (R) $-5 - (-25)$ (T) $-100 - (-99)$
 (O) $22 - (-9)$ (B) $-4 - 10$
 (T) $3 - 14$ (H) $-3 - (-12)$
 (E) $-7 - (-1)$ (L) $50 - 50$

Set 1 answers:

-15	-9	-10	-18	4	5	10	-5	24	6	-13	-50	7	-4	-60	-1	31	0	-8	15	9	-6	20	-2	-11	12	3	-14	-7	11	21
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Set 2 answers:

Set 3. Simplify.

- (T) $4x - 7x$ (D) $-9x - (-4x)$ (N) $10k + 7 - 3k - 11$
 (A) $-5x - 6x$ (O) $-8x - 8x$ (S) $-k - 16 + 4k - 9$
 (E) $10x - x$ (E) $18x - 24x$ (H) $8 + 12k - 8k - 5k$
 (B) $3x - (-2x)$ (T) $-x - (-15x)$ (N) $-9 - 6k + 9 - (-2k)$

Set 3 answers:

$3k - 25$	$7k - 5$	$9x$	$-4k$	$-6x$	$7k - 2$	$5x$	$-16k - 4$	$-3x$	$16x$	$7k - 4$	$-16x$	$14x$	$-3k + 8$	$-11x$	$-8x$	$-k + 8$	$10k + 8$	$-3k - 1$	$-5x$
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What Do They Call the International Hula Hoop Championships?



Simplify each expression, then evaluate it for the given value of the variable. Find the simplified expression in the answer column and notice the letter next to it. Write this letter in the box at the bottom of the page that contains the value of the expression.

	Simplified Expressions
1. $-4x + 5 + 9x - 2$ if $x = 6$	<input type="radio"/> S. $-7x - 23$
2. $7 + 7x - (-2x) + 3$ if $x = -4$	<input type="radio"/> N. $7x - 21$
3. $x - 8 + (-8x) - 15$ if $x = -9$	<input type="radio"/> E. $7x - 12$
4. $-5 - 3x - x - (-16)$ if $x = 20$	<input type="radio"/> I. $5x + 3$
5. $-6x + (-4) + 15x - 5 - 2x$ if $x = -1$	<input type="radio"/> R. $-4x + 11$
6. $7(x - 3) + 4x$ if $x = 3$	<input type="radio"/> O. $11x - 9$
7. $9x - 2(x + 6)$ if $x = -10$	<input type="radio"/> H. $11x - 21$
8. $15 - 4(a - 5)$ if $a = 8$	<input type="radio"/> E. $9x + 10$
9. $a + 6(7 - a)$ if $a = -6$	<input type="radio"/> I. $7x - 9$
10. $-5(-2a + 3) - 8$ if $a = -2$	<input type="radio"/> F. $-4x - 12$
11. $12a - 2(5a - 4) + 3$ if $a = 44$	<input type="radio"/> P. $-30a - 13$
12. $-a + 7(1 + 3a) - 20$ if $a = -3$	<input type="radio"/> E. $-5a + 42$
13. $4 - 4(-2a - 9) + 10a$ if $a = 2$	<input type="radio"/> L. $20a - 13$
14. $-6a + 3(11 - 8a) - 2$ if $a = -5$	<input type="radio"/> A. $18a + 31$
	<input type="radio"/> S. $10a - 23$
	<input type="radio"/> W. $-30a + 31$
	<input type="radio"/> H. $-4a + 35$
	<input type="radio"/> R. $18a + 40$
	<input type="radio"/> K. $20a + 40$
	<input type="radio"/> T. $2a + 11$

175	99	12	-26	-88	181	3	33	-69	-73	64	-43	-82	76	-16	72	40	-18
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