

Problem Set

1. Fill in the missing parts.

- a. The sum of
- $6c - 5$
- and the opposite of
- $6c$

$$(6c - 5) + (-6c)$$

Rewrite subtraction as addition

$$6c + (-6c) + (-5)$$

$$0 + (-5)$$

Additive identity property of zero

- b. The product of
- $-2c + 14$
- and the multiplicative inverse of
- -2

$$(-2c + 14) \left(-\frac{1}{2}\right)$$

$$(-2c) \left(-\frac{1}{2}\right) + (14) \left(-\frac{1}{2}\right)$$

Multiplicative inverse, multiplication

$$1c - 7$$

Adding the additive inverse is the same as subtraction

$$c - 7$$

2. Write the sum, and then rewrite the expression in standard form by removing parentheses and collecting like terms.

- a. 6 and $p - 6$
- b. $10w + 3$ and -3
- c. $-x - 11$ and the opposite of -11
- d. The opposite of $4x$ and $3 + 4x$
- e. $2g$ and the opposite of $(1 - 2g)$

3. Write the product, and then rewrite the expression in standard form by removing parentheses and collecting like terms.

- a. $7h - 1$ and the multiplicative inverse of 7
- b. The multiplicative inverse of -5 and $10v - 5$
- c. $9 - b$ and the multiplicative inverse of 9
- d. The multiplicative inverse of $\frac{1}{4}$ and $5t - \frac{1}{4}$
- e. The multiplicative inverse of $-\frac{1}{10x}$ and $\frac{1}{10x} - \frac{1}{10}$

4. Write the expressions in standard form.

a. $\frac{1}{4}(4x + 8)$

b. $\frac{1}{6}(r - 6)$

c. $\frac{4}{5}(x + 1)$

d. $\frac{1}{8}(2x + 4)$

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

f. $\frac{1}{5}(10x - 5) - 3$