

## Equation

## Unit 3.1

## Adding and Subtracting Algebraic Expressions Part I

1. Simplify the expressions as shown below.

Example:  $4x + 2x = 6x$        $3x - 2x = x$   
 $7a - 3a = 4a$        $x - 2x = -x$   
 Note: We write  $1x$  and  $1a$  as  $x$  and  $a$ .  
 Similarly,  $-1x$  and  $-1a$  as  $-x$  and  $-a$ .

a.  $3x + 5x = 8$

n.  $6a - 4a =$

b.  $5y + y =$    $y$

o.  $7a + a =$

c.  $8n - 3n =$

p.  $5x - x =$

d.  $9a + 2a =$

q.  $-3x + 4x =$

e.  $3x + 6x - 4x =$

r.  $-5a + 4a =$

f.  $\frac{3}{5}a - \frac{2}{5}a =$

s.  $-x + 2x =$

g.  $\frac{2}{3}a - \frac{1}{3}a =$

t.  $-x + x = 0$

h.  $6x + 4x - x =$

u.  $a - \frac{1}{3}a =$

i.  $\frac{4}{7}a + \frac{2}{7}a =$

v.  $2x - \frac{1}{5}x =$

j.  $6x - 0 =$

w.  $\frac{2}{3}x - \frac{2}{3}x =$

k.  $0 - 2x =$

x.  $\frac{3}{4}y + \frac{1}{4}y =$

l.  $-3a + 2a =$

y.  $x + x + 2x =$

m.  $-\frac{3}{8}x + \frac{5}{8}x =$

z.  $a - 2a + 4a =$

2. Simplify the expressions below.

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| Example: $8 - 3x - 4 = -3x + 4$<br>$-4 - 2x - 2 = -2x - 6$<br>$5x + 3x + 4 - 2 = 8x + 2$ |
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a.  $5x + 3 + 4$

k.  $7x + 4x + 5 + 2$

b.  $5x + 4 - 3$

l.  $7x - 4x + 5 - 2$

c.  $5x - 4 + 3$

m.  $-7x + 4x - 5 - 1$

d.  $-5x - 4 - 3$

n.  $-7x - 4x - 5 + 1$

e.  $6 + 3x + 2$

o.  $7x + 5 + 4x + 1$

f.  $6 - 3x + 2$

p.  $7x + 5 - 4x - 1$

g.  $-6 + 3x - 2$

q.  $7x - 5 + 4x + 1$

h.  $-6 - 3x + 2$

r.  $-7x + 5 - 4x - 1$

i.  $-6 - 3x - 2$

s.  $-7x - 5 - 4x - 1$

j.  $-7 + 3x - 6$

t.  $5x - 4 - 3x + 2$