1.1 Practice - Algebra Basics

1) $x-(x-(z+x))$; use $x=6$, and $z=3$

$6-(6-(3+6))$
$6-(6-9)$
$6-(-3)$ $=9$

2) $j\cdot\frac{2h}{6}$; use $h=-6$, and $j=-3$

$=(-3)\frac{2(-6)}{6}$
$=(-3)\frac{(-12)}{6}$
$=(-3)(-2)$
$=6$

3) a^3-cb^2; use $a=-1$, $b=3$, and $c=5$

$(-1)^3-5(3)^2$
$(-1)-5(9)$
$(-1)-45$
$=-46$

4) $j+j(-3-j+k)$; use $j=5$, and $k=-3$

$5+5(-3-(5)+(3))$
$5+5(-11)$
$5-55$
$=-50$

5) $q-m-(q+m)$; use $m=6$, and $q=-1$

$(-1)-6-((-1)+6)$
$(-1)-6-5$
$=-12$

6) $(j+h)^2(-4-h)$; use $h=-3$, and $j=1$

$=(1+(-3))^2(-4-(-3))$
$=(-2)^2(-1)$
$=(4)(-1)$ $=-4$

Simplify each expression.

7) $-7m+3(5m+2)$

$-7m+15m+6$
$=8m+6$

8) $9m(m+7)+8m$

$9m^2+63m+8m$
$9m^2+71m$
$9m^2+71m$

9) $4(x+9)+8x$

$4x+36+8x$
$=12x+36$

10) $-(k-5)-6(-9k+7)$

$-K+5+54K-42$
$=53K-37$

11) $-8(-3a-7)-6(a+8)$

$24a+56-6a-48$
$=18a+8$

12) $-4x(2x-1)-9x(2x-3)$

$-8x^2+4x-18x^2+27x$
$=-26x^2+4x+27x$
$=-26x^2+31x$

13) Find the ***Least Common Multiple*** of the following sets of numbers:

a. {12, 9} b. {7, 12, 2} c. {3, 5, 9} d. {2, 3, 4, 8, 9}

$=36$ $=$ xxxxxxxx 45 72

b. 84

Simplify each expression.

14) $16\left(\frac{1}{8}x-\frac{3}{4}y-\frac{3}{16}x-\frac{1}{2}y\right)$

$2x-12y-3x-8y$
$-1x-20y$

15) $12\left(\frac{1}{3}x-\frac{1}{12}y-\frac{1}{4}x-\frac{2}{3}y\right)$

$4x-1y-3x-8y$
$1x-9y$

16) $12\left(\frac{5}{6}x-\frac{1}{6}y-\frac{1}{4}y-\frac{5}{12}y\right)$

$10x-2y-3y-5y$
$10x-10y$

17) $18\left(\frac{2}{3}y+\frac{5}{18}x-\frac{1}{2}x-\frac{5}{6}y\right)$

$12y+5x-9x-15y$
$=-4x-3y$