

Name: _____

Date: _____

Pre Calculus 11: HW Section 1a: Algebra Review#1

1. Evaluate each of the following expressions:

$a) (9-5)4+3$ $(4)4+3$ $16+3$ $=19$	$b) (7+2)3-5$ $(9)3-5$ $27-5$ $=22$	$c) (7+3)(-3)+11$ $10(-3)+11$ $-30+11$ $=-19$
$d) 4+(7-10)3$ $4+(-3)3$ $4-9$ $=-5$	$e) -5 \times 3^2$ -5×9 $=-45$	$f) 2^3 + 5^2$ $8 + 25$ $=33$
$g) 3(4-2 \times 3)^2$ $3(4-6)^2$ $3(-2)^2$ $3(4)$ $=12$ $=-19$	$h) 42+3(4-8)^3$ $42+3(-4)^3$ $42+3(-64)$ $42-192$ $=-150$	$i) 2(3-5 \times 3)^2$ $2(3-15)^2$ $2(-12)^2$ $2(144)$ $=288$
$j) (32 \div 8 - 7)^4$ $(4-7)^4$ $(-3)^4$ $=81$	$k) 3[(3-6)^3 + 5 \times 2]$ $3[(-3)^3 + 5 \times 2]$ $3[-27 + 10]$ $3[-17]$ $=-51$	$l) -4[8 \div 4 + 3(3-6)^2]$ $-4[2 + 3(-3)^2]$ $-4[2 + 3(9)] - 30 + 11$ $-4[2 + 27]$ $-4[29]$ $=-116$

2. Solve for "x" in each of the following equations:

$a) 3x+5=11$ $3x=11-5$ $3x=6$ $x=6 \div 2$ $x=2$	$b) 20=15+x$ $20-15=x$ $5=x$	$c) 12=4 \cdot x \cdot 3$ $12=12x$ $1=x$
$d) 12-x=3 \times 6$ $12-x=18$ $-x=18-12$ $-x=6$ $x=-6$	$e) 18 = \frac{7-3x}{2}$ $36 = 7-3x$ $29 = -3x$ $\frac{29}{-3} = x$	$f) 44 = 20 - 13x$ $44 - 20 = -13x$ $24 = -13x$ $\frac{24}{-13} = x$

g) $24 = 3 + (x-1)2$ $24 = 3 + 2x - 2$ $21 = 2x - 2$ $23 = 2x$ $\frac{23}{2} = x$	h) $32 = 8 - (x-2)4$ $32 = 8 - (4x-8)$ $32 = 8 - 4x + 8$ $32 = 16 - 4x$ $16 = -4x$ $-4 = x$	i) $18 = -12 - (x-1)(-4)$ $18 = -12 - (4x+4)$ $18 = -12 - 4x - 4$ $18 = -16 - 4x$ $34 = 4x$ $\frac{34}{4} = x$ $8.5 = x$
j) $27 = \frac{17}{2}(3 + (x+2)4)$ $27 = \frac{17}{2}(3 + (4x+8))$ $27 = \frac{17}{2}(11 + 4x)$ $27 = \frac{187}{2} + 34x$ $27 = 93.5 + 34x$ $-66.5 = 34x$ $\frac{-66.5}{34} = x$ $\frac{133}{68} = x$	k) $16 = \frac{9}{2}(-10 - (x-3)3)$ $16 = \frac{9}{2}(-10 - (3x-9))$ $16 = 4.5(-10 - 3x + 9)$ $16 = 4.5(-1 - 3x)$ $16 = -4.5 - 13.5x$ $20.5 = -13.5x$ $\frac{20.5}{-13.5} = x$ $\frac{41}{-27} = x$	l) $4 = \frac{5}{2}(11 - 5(2-x))$ $4 = 2.5(11 - 10 + 5x)$ $4 = 2.5(1 + 5x)$ $4 = 2.5 + 12.5x$ $1.5 = 12.5x$ $\frac{3}{25} = x$

3. Given each equation, isolate the variable "x". Show all your work and steps:

a) $A = B(C)(x)$ $\frac{A}{BC} = x$	b) $B = A + x$ $B - A = x$	c) $C = A \cdot x \cdot B$ $\frac{C}{AB} = x$
d) $C - x = AB$ $C - AB = x$	e) $C = \frac{B - Ax}{D}$ $CD = B - Ax$ $CD - B = -Ax$ $\frac{CD - B}{-A} = x$	f) $B = C + Ax$ $B - C = Ax$ $\frac{B - C}{A} = x$
g) $D = B - CAx$ $D - B = -CAx$ $\frac{D - B}{-CA} = x$ $\frac{B - D}{CA} = x$	h) $D = A(Bx - C)$ $D = ABx - AC$ $D + AC = ABx$ $\frac{D + AC}{AB} = x$	i) $E = C(x - B) + D$ $E = Cx - CB + D$ $E + CB - D = Cx$ $\frac{E + CB - D}{C} = x$
j) $C = D(A)x^2$	k) $C = A + Bx^2$	l) $D = E(B) - x^3$

$C = ADx^2$ $\frac{C}{AD} = x^2$ $\sqrt{\frac{C}{AD}} = x$	$C - A = Bx^2$ $\frac{C - A}{B} = x^2$ $\sqrt{\frac{C - A}{B}} = x$	$D = BE - x^3$ $D - BE = -x^3$ $\sqrt[3]{D - BE} = -x$ $-\sqrt[3]{D - BE} = x$
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