

LT 3 Study Helper

1) Solve the following correctly

a) $4 + 8(7 - 5)^2 = 36$

b) $\frac{7 \cdot 4}{2\sqrt{12^2 - (2^6 \cdot 2)}} = 6$

c) $(9 - 3)^2 + (4 - 8)^3 = -28$

d) $13 - 2(3^3 - 4 * 10) = 39$

2) **Solve and Explain** the following problems

a) What is

$$(-1)^{536} + (-1)^{6357}$$

b) What is $(x^4)^2$? Explain why using expanded form, then give name of the property

c) Solve $x^5 * x^4 =$ Explain why using expanded form, then give name of the property

d) Solve $\frac{x^5}{x^2}$ Explain why using expanded form, then give name of property

3) Solve the following problems. Prove that the answer works by plugging back in

a) $x + (-6) = -7$

b) $\frac{x}{3} = -5$

c) $8x = -64$

d) $x - (-5) = 18$

4) Multiply the following binomials

$$a) (3x-5)(4x+6)=12x^2-2x-30$$

$$b) (4x-3y)(4x+y)= 16x^2-3y^2-8xy$$

$$c) (3x^2-2x+3)(4x-3)= 12x^3-17x^2+18x-9$$

$$d) (2x+3y+z)(3x-2y-z)= 6x^2+5xy+xz-6y^2-5yz-z^2$$

5) Solve the following by simplifying all values. Also leave all exponents positive

$$a) \frac{(2x^{12})^3}{5x^6} = \frac{8x^{30}}{5}$$

$$b) \frac{5x^6 \cdot (2x^5)^4}{10x^3} = 8x^{23}$$

$$c) \frac{18x^3(3x^4)^1}{9x^{10}} = \frac{6}{x^3}$$

$$d) \left(\frac{(42-7\sqrt{12-11+11^2})}{(16-13)^2} \right)^0 + 2 =$$