

Math 9: Polynomials Quiz #2

Full credit will only be awarded for all work shown in a neat and organized manner.

1. Draw algebra tiles to multiply $(-2x)(x - 3)$
Write your final answer **using variables** as well

$$= -2x^2 + 6x$$

2. Complete the algebra tile division shown below
Write the question and answer using variables

$$\frac{3x^2 - 6x}{-3x} = -x + 2$$

3. Simplify.

a) $(3x^3y^4)(-5yx^2)$

$$= -15x^5y^5$$

b) $(-2n^3 + n^2 - 3)(-4n)$

$$= 8n^4 - 4n^3 + 12n$$

$$c) \frac{15a^2b^3c}{-5a^2b} = \boxed{-3b^2c}$$

$$d) \frac{4x^5 - 2x^4 + 12x^3}{2x^2} = \boxed{2x^3 - x^2 + 6x}$$

$$e) 3x(2x - 1) + \frac{4x^2 - 6x + 10}{-2}$$

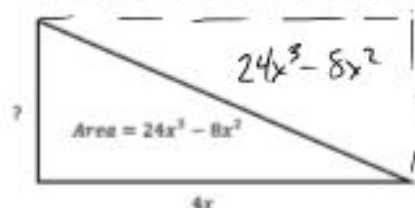
$$f) \frac{-9x^2 + 6x}{3x} - 2(3x^2 - 2x + 4)$$

$$6x^2 - 3x + (-2x^2 + 3x - 5) = -3x + 2 + (-6x^2 + 4x - 8)$$

$$= \boxed{4x^2 - 5}$$

$$= \boxed{-6x^2 + x - 6}$$

4. Find the height of the triangle

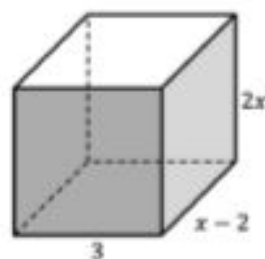


$$\frac{1}{2}bh = A$$

$$2A = bh \Rightarrow h = \frac{48x^3 - 16x^2}{4x} = \boxed{12x^2 - 4x}$$

5. For the cube below:

- Find the volume
- Find the surface area



$$a) V = 3 \cdot 2x \cdot (x-2)$$

$$= 6x \cdot (x-2) = \boxed{6x^2 - 12x}$$

$$b) SA = 2 \cdot [2x \cdot 3] + 2 \cdot [2x \cdot (x-2)]$$

$$+ 2 \cdot [3 \cdot (x-2)]$$

$$= 12x + 4x(x-2) + 6(x-2)$$

$$= 12x + 4x^2 - 8x + 6x - 12$$

$$= \boxed{4x^2 + 10x - 12}$$