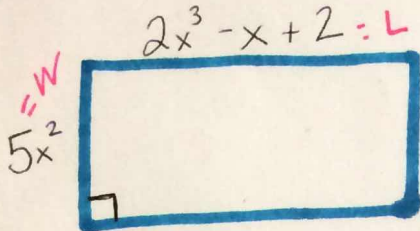


Unit 7 Test: Polynomials

Complete all problems on this paper. You must use a pencil and show all of your work to earn full credit. Please circle your answers!

- 1) Find the AREA of the following shape



$$A = L \cdot W$$

$$= 5x^2(2x^3 - x + 2)$$

$$= 10x^5 - 5x^3 + 10x^2$$

Name each polynomial by degree and number of terms- use the fancy names

2) $-4n^2 - 6n$

Quadratic Binomial

3) $-6p^4 - 6p^3 - 10p^2 + 3p + 4$

Quartic Poly with five terms

- 4) Which of the following is an example of a quintic trinomial written in standard form?

A) $5a^2 + 2a^5$

B) $-9x^5 + x - 1$

C) $3x^5 + 2x^3 - x^2 + 2x - 1$

D) $-3x^2 + 2x^5 + x$

- 5) Which of the following polynomials is *not* in standard form?

A) $2x^3 + x^2 - 1$

B) $5x + 1$

C) $x^4 + 2x^2 - x$

D) $8x^3 + x^4 + 1$

- 6) Give an example of a cubic binomial: $x^3 + 1$

Simplify each of the following. Your answer should be in standard form.

3) $(3b^4 - 4b^2 + b^5) + (3b^4 + b^5 + 3b^2 - b)$

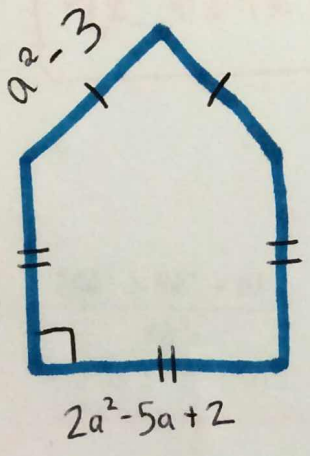
$2b^5 + 6b^4 - b^2 - b$

4) $(3k^2 - 2k - 4k^4) - (5k + 5) + (3k^4 + 3)$

$3k^2 - 2k - 4k^4 - 5k - 5 + 3k^4 + 3$

$-k^4 + 3k^2 - 7k - 2$

5) 9) Find the Perimeter of the following shape:



$3(2a^2 - 5a + 2) + 2(a^2 - 3)$

$6a^2 - 15a + 6 + 2a^2 - 6$

$8a^2 - 15a$

Simplify each of the following. Your answer should be in standard form.

10) $5x(4x^2 + 2x - 1)$

$$20x^3 + 10x^2 - 5x$$

11) $(2p + 1)(3p + 4)$

$$6p^2 + 8p + 3p + 4$$

$$6p^2 + 11p + 4$$

12) $(2x + 6)^2$

$$(2x + 6)(2x + 6)$$

$$4x^2 + 12x + 12x + 36$$

$$4x^2 + 24x + 36$$

13) $(30m^8 + 12m^7 - 6m^6) \div 6m^2$

$$\frac{30m^8}{6m^2} + \frac{12m^7}{6m^2} - \frac{6m^6}{6m^2}$$

$$5m^6 + 2m^5 - m^4$$

14) $\frac{16k^7 + 8k^4 + 6k^2}{8k^4}$

$$2k^3 + 1 + \frac{3}{4k^2}$$

Describe the MISTAKE made in the polynomial multiplication below:

$$(3m + 2)(4m - 3)$$

2

$$12m^2 - 6$$

They didn't double distribute.

$$(3m+2)(4m-3)$$

$$12m^2 - 9m + 8m - 6$$

$$= 12m^2 - m - 6$$

Find the Product:

5 16) $(5x + 5)(6x^2 + 8x - 2)$

$$\underline{30x^3} + \boxed{40x^2} - 10x + \boxed{30x^2} + \boxed{40x} - 10$$

$$30x^3 + 70x^2 + 30x - 10$$