Polynomial Quiz Study Guide **Name: _____**

Naming Polynomials Practice:

__ 1. $-2x^4$	A. Quadratic Monomial
__ 2. -7	B. Cubic Trinomial
__ 3. $-x^2$	C. Quartic Monomial
__ 4. $1-2xy^5$	D. 6^{th} degree Binomial
__ 5. $3x^2y-4xy+2y$	E. Quadratic Binomial
__ 6. $4x^3y^2$	F. Constant Monomial
__ 7. 5x	G. Linear Monomial
__ 8. $7x^2+12$	H. Cubic Binomial
__ 9. x^3-4x	I. Quintic Monomial
__ 10. x^3-4x^2+2	J. Cubic Trinomial

Answer Key

1.C 2.F 3.A 4.D 5.B 6.I 7.G 8.E 9.H 10.J

Subtracting Polynomials Practice:

- 1. $(6x^2-5x) - (4x^2-3x-4)$

A)$10x^2+2x-4$
B)$2x^2-8x-4$
C)$2x^2+8x+4$
D) $2x^2-2x+4$

- 2. $(4a^2+2a+14) - (3a^2+6a+11)$

A)a^2+4a-3
B)$7a^2+8a+3$
C)$7a^2+8a+25$
D) a^2-4a+3

- 3. $(3y^2+5y-8) - (7y^2+4y-4)$

A)$-4y^2+y-4$
B)$10y^2+y+12$
C)$10y^2-y-4$
D) $10y^2+y-4$

- 4. $(5x^2-4x+6) - (5x-2)$

A)$5x^2+9x-8$
B)$5x^2-9x+8$
C)$5x^2+9x+8$
D) $4x+4$

- 5. $(2x^2-11x+7) - (2x^2+11x-7)$

A)$-22x+14$
B)$4x^2$
C)$22x$
D) $22x-14$

- 6. $(6m^2+3) - (m-5)$

A)$6m^2+3m-5$
B)$6m^2+m-8$
C)$6m^2-m+8$
D) $5m-2$

- 7. $(5y^2+15y) - (3y^2-16)$

A)$2y^2+15y+16$
B)$2y^2+18y-16$
C)$2y^2-15y-16$
D) $2y^2-15y+16$

- 8. $(m^2-m+1) - (1/2m^2+ 1/2m)$

A)m^2-m+1
B)$1.5m^2+1.5m+1.5$
C)$1/2m^2+3/2m-1$
D) $1/2m^2-3/2m+1$

- 9. $(a^2+1/2a+1) - (a^2-a/2-1)$

A)$2a^2$
B)$2a^2+a+2$
C)$a+2$
D) $a+1$

- 10. $(x^2+3) - (0.5x-2)$

A)$1.5x^2-x-5$
B)$0.5x+5$
C)$x^2-0.5x+5$
D) $0.5x+1$

Answer Key

1.D 2.D 3.A 4.B 5.A 6.C 7.A 8.D 9.C 10.C

Multiplying Polynomials Practice:

__ 1. $(4x + 2)(6x^2 - x + 2)$
__ 2. $(5x + 6)(5x-5)$
__ 3. $(6x + 3)(6x - 4)$
__ 4. $(6x + 5)(5x + 5)$
__ 5. $(6x + 8)(5x - 8)$
__ 6. $(7x - 6)(5x + 6)$
__ 7. $(8x + 1)(6x -3)$
__ 8. $(8x - 2)(6x + 2)$
__ 9. $(x^2 + 6x -4)(2x-4)$
__ 10. $(x-3)(6x-2)$

A. $30x^2- 8x - 64$
B. $25x^2+ 5x - 30$
C. $30x^2 + 55x + 25$
D. $48x^2+ 4x - 4$
E. $6x^2- 20x + 6$
F. $35x^2 + 12x - 36$
G. $2x^3+ 8x^2- 32x + 16$
H. $48x^2 - 18x - 3$
I. $24x^3+ 8x^2+ 6x+4$
J. $36x^2- 6x - 12$

Answer Key

1.I 2.B 3.J 4.C 5.A 6.F 7.H 8.D 9.G 10.E

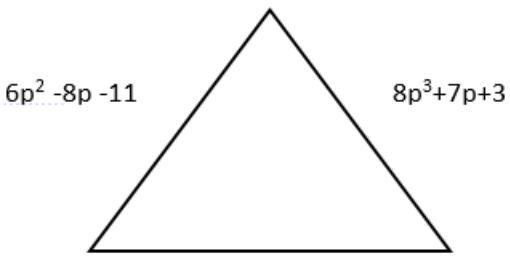
Application to Geometry Practice:

1. Simplify each expression below.

a. $7f(3f^2 - 5)+6(f^3 - 5f^2 + 11)$ _____

b. $(11y^2 + y -6) -2(3y^2 - 4y - 3)$ _____

c. $6a(7a^4 - 3a) - 2a^2(4a^3 - a^2 + 11)$ _____



2. The perimeter of triangle to the left is $14p^3-5p^2+2p$. Find the length of the missing side length.

_____

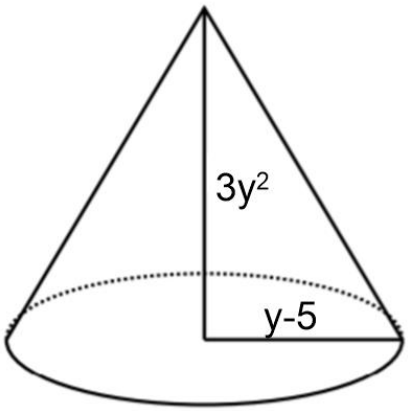
3. Show how to arrange the polynomial $7a^2b - a - 5b - a^2b + 2a + 4b$ so the powers of a are in descending order.

_____

4. Show how to arrange the polynomial $6a^3x - 2a^2x^4 + 8ax^2 - 4a^3x^3 + 11a - 10$ so the powers of x are in descending order.

5. **Find the volume of the shapes below:**

a.



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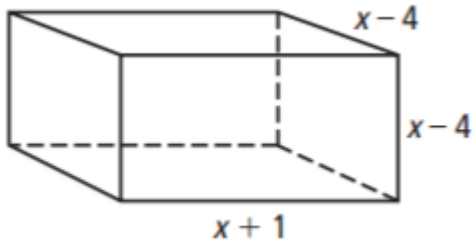
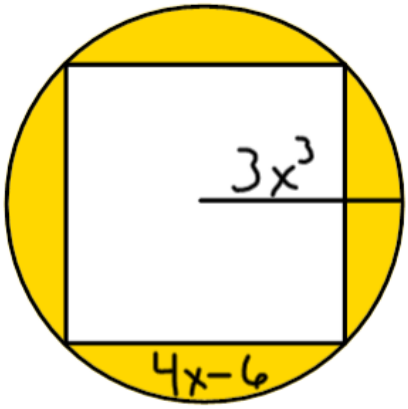
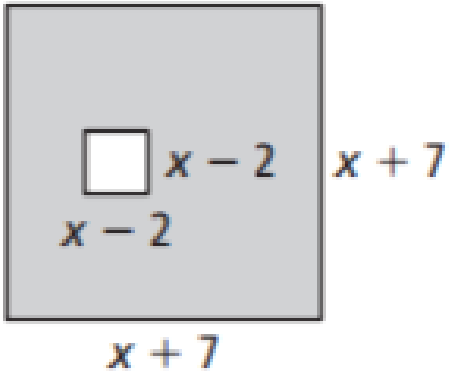


6. **Find the area of each shaded region:**

a.



b.



Answers

1a. $27f^3-30f^2-35f+66$

1b. $5y^2+9y$

1c. $34a^5+2a^4-40a^2$

2. $6p^3-11p^2+3p+8$

3. $6a^2b + a - b$

4. $-2a^2x^4 - 4a^3x^3 + 8ax^2 + 6a^3x + 11a - 10$

5a. $\pi y^4 - 10\pi y^3 + 25\pi y^2$

5b. $x^3 - 7x^2 + 8x + 16$

6a. $9\pi^6 - 16x^2 + 48x - 36$

6b. $18x + 45$