

Chapter 5 Review

Match each term with its best fitting definition.

- e polynomial a. the number in front of the variable
- d term b. this value does not change when the value of x changes
- a coefficient c. $6x^2 + 3x - 6$
- b constant term d. numbers, variables, or the product of numbers and variables
- f monomial e. one term or the sum of terms whose variables have whole-number exponents
- h binomial f. $-5xyz$
- c trinomial g. can be represented by algebra tiles with the same size and shape
- g like terms h. 2 terms

2.

	variable	coefficients	constant	degree	type
$x^3 + 4x$	x	2, 4	-	3	binomial
$-4y$	y	-4	-	1	monomial
$h^2 - h + 5$	h	1, -1	5	2	trinomial

right? or wrong?

3. Create a polynomial that meets these conditions:

a trinomial in variable k, degree 3, constant term is -5

$3k^3 + k - 5$

↳ must have one term to the third degree.

4. Simplify the following polynomials, if you can.

a) $4x + (-6x)$

$-2x$

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

$y^2 + 6y^2 - 4y + y \Rightarrow 3y^2 - 3y$

c) $10xy + 5x - 10y$

can't simplify any further!

5. Match each polynomial with its corresponding algebra tile model.

- a) B
- b) D
- c) E
- d) A
- e) C

- a) $r^2 - r + 3$
- b) $-t^2 - 3$
- c) $-2v$
- d) $2w + 2$
- e) $2s^2 - 2s + 1$

Model A

Model B

Model C

Model D

Model E

6. Write the simplified version of the following polynomials in descending order.

- a) $2x^2 + 1$
- b) $-x - 3$
- c) $-x^2 + 2x$
- d) $-x^2 + 2x$
- e) $2x^2 + 1$
- f) $-x - 3$

7. Add or Subtract the following polynomials.

a) $3x^2 + 5x + 7 + (-8x^2 - 3x + 5)$
 $-5x^2 + 2x + 12$

b) $3x^2 + 5x - (-2x^2 - 8x)$
 $5x^2 + 13x$

c) $(6(-7x) + x^2) + (6x - 6x^2 + 10)$

$-5x^2 - x + 16$

d) $(3x^2 - 2y^2 + xy) + (-2xy) - 2y^2 - 3x^2$

$-4y^2 - xy$

e) $(-4x^2 - 3x - 11) - (x^2 - 4x - 15)$

$+(-x^2 + 4x + 15)$

$-5x^2 + x + 4$

f) $(5cd) + 8c^2 - 7d^2 - (3d^2 + 6cd - 4c^2)$

$-3d^2 - 6cd + 4c^2$

$12c^2 - cd - 10d^2$

8. a) Which polynomial must be added to $5x^2 - 3x + 2$ to get $7x^2 - 5x + 1$?

$= 7x^2 - 5x + 1$

$5x^2 - 3x + 2 + (\underline{\hspace{2cm}}) = 7x^2 - 5x + 1$

$2x^2 - 2x - 1$

OP $7x^2 - 5x + 1 - (5x^2 - 3x + 2) = \underline{\hspace{2cm}}$

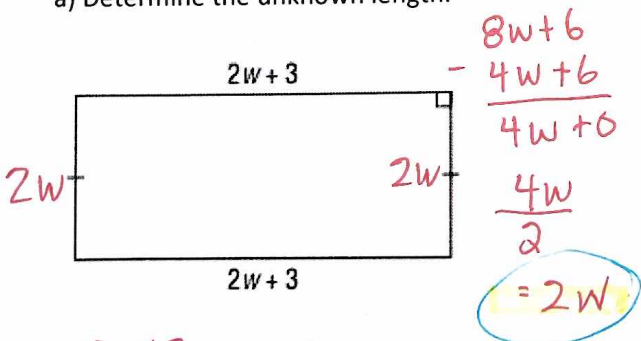
b) Which polynomial must be subtracted from $5x^2 - 3x + 2$ to get $7x^2 - 5x + 1$?

$5x^2 - 3x + 2 - (\underline{\hspace{2cm}}) = 7x^2 - 5x + 1$

$-2x^2 + 2x + 1$

9. The perimeter of the polygon is $8w + 6$

a) Determine the unknown length.



$2w+3$
 $+ 2w+3$
 $\hline 4w+6$

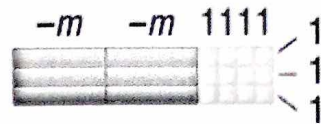
Now determine the area of the figure.

$A = l \times w$

$A = 2w(2w+3)$

$A = 4w^2 + 6w$

10.



a) Write the multiplication statement represented by this diagram.

$3(-2m + 4) = -6m + 12$

b) Write the division statement represented by this diagram.

$\frac{-6m + 12}{3} = -2m + 4$

11. Multiply or divide the following.

a) $4(-7y^2 + 3y - 9)$

$-28y^2 + 12y - 36$

b) $\frac{-10 + 4m^2}{-2} = \frac{-10}{-2} + \frac{4m^2}{-2}$

$5 - 2m^2$

c) $(6y^2 - 36y) \div (-6) = \frac{6y^2}{-6} - \frac{36y}{-6}$
 $-y^2 + 6y$

d) $(-8n + 2 - 3n^2)(3)$

$-24n + 6 - 9n^2$

e) $\frac{15g - 10g^2}{5g} = \frac{3 \cdot 5g}{5g} - \frac{2 \cdot 5g^2}{5g}$

$3 - 2g$

f) $(-g)(8h - 5g)$

$-8gh + 5g^2$

12. Simplify

$(2x^2 - 8x + 4xy) - (4x + 6x^2 - 2xy) \div 2x$

$\frac{-4x^2 - 12x + 6xy}{2x} = -2x - 6 + 3y$

Evaluate - If $x = 2$ and $y = -1$,

$-2(2) - 6 + 3(-1) = -13$
 $-4 - 6 - 3$