

Chapter 5:
Mid Unit Review

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1. In each polynomial, identify:
the variable, number of terms, coefficients,
constant term, and degree.

	Variable	# of Terms	Coefficients	Constant	Degree
a) $3m - 5$					
b) $4r$					
c) $x^2 + 4x + 1$					

2. Create a polynomial that meets
these conditions:
trinomial in variable m , degree 2,
constant term is -5

3. Which polynomial is represented by each set of algebra tiles? Is the polynomial a monomial, binomial, or trinomial? How do you know?



4. Use algebra tiles to represent each polynomial. Sketch the tiles you used.

a) $4n - 2$

b) $-t^2 + 4t$

c) $2d^2 + 3d + 2$

.

5. For each pair of monomials, which are like terms? Explain how you know.

a) $2x, -5x$

c) $10, 2$

e) $8x^2, 3x$

b) $3, 4g$

d) $2q^2, -7q^2$

f) $-5x, -5x^2$

6: Simplify $3x^2 - 7 + 3 - 5x^2 - 3x + 5$.

7. Renata simplified a polynomial and got $4x^2 + 2x - 7$. Her friend simplified the same polynomial and got $-7 + 4x^2 + 2x$. Renata thinks her friend's answer is wrong. Do you agree? Explain.

8. Cooper thinks that $5x - 2$ simplifies to $3x$. Is he correct? Explain.

9. Identify the equivalent polynomials.

Justify your answers.	Simplified	proper order
a) $1 + 3x - x^2$		
b) $1 + 3x^2 - x^2 + 2x - 2x^2 + x - 2$		
c) $x^2 - 3x - 1$		
d) $6 + 6x - 6x^2 - 4x - 5 + 2x^2 + x^2 - 4$		
e) $3x - 1$		
f) $-3x^2 + 2x - 3$		
g) $6x^2 - 6x - 6 + x - 5x^2 - 1 + 2x + 4$		
h) $3x - x^2 + 1$		

10. Simplify

a) $(4f^2 - 4f) + (-2f^2)$

b) $(3r^2 + 2r + 5) + (-7r^2 + r - 3)$

c) $(-2v + 5) - (-9v + 3)$

d) $(-2g^2 - 12) - (-6g^2 + 4g - 1)$

11. Add or subtract. Use a strategy of your choice.

a) $(3w^2 + 17w) + (12w^2 - 3w)$

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

c) $(-3h - 12) - (-9h - 6)$

d) $(6a^2 + 2a - 2) + (-7a^2 + 4a + 11)$

e) $(3y^2 + 9y + 7) - (2y^2 - 4y + 13)$

f) $(-14 + 3p^2 + 2p) - (-5p + 10 - 7p^2)$

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

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

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Master 5.19

Extra Practice 1**Lesson 5.1: Modelling Polynomials**

1. Identify the polynomials in the following expressions.

a) $2m^2 + 1$ b) $3x^{\frac{1}{2}}$ c) $-4x$ d) $\frac{1}{x^2 + x}$ e) $0.25y^2$

2. Complete the chart:

	Coefficient	Variable	degree	constant
a) $8y$				
b) 12				
c) $-2b^2 - b + 10$				
d) $-4 - b$				

3. Identify each polynomial as a monomial, binomial, or trinomial.

a) $19t$ b) $g - 4g^2 + 5$ c) $-1 + xy + y^2$ d) $4 - 11w$

4. Identify the equivalent polynomials. (Rearrange in correct order)

a) $-h^2 - 3 + 4h$ b) $-3 + 4h - h^2$

c) $5m - 3$ d) $-2 + y^2 + 5xy$

e) $y^2 + 5xy - 2$ f) $-3 + 5m$

5. Use algebra tiles to model each polynomial. Sketch the tiles.

a) $-5 + y^2$ b) $2x - 1$

c) $-3a^2 - 2a + 1$ d) $3z$ e) $v^2 - 4v$

6. Write a polynomial to match the following conditions.

a) 2 terms, degree 1, with a constant term of 4

b) 3 terms, degree 2, with the coefficient on the 2nd degree term -2

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Extra Practice 2

Lesson 5.2: Like Terms and Unlike Terms

1. From the list, circle terms that are like
- $2w^2$
- .

 $-5w, -6w^2, -2, 4w, 3w^2, -w^2, 11w, 2$

2. Simplify the following by combining like terms.

a) $4 + x + 1 + 5x + 1$

b) $-3y^2 + 3y - 2$

c) $2x^2 + 8 - 11 - 4x^2 + 5x^2$

d) $3y + 7y^2 + 1 - y - 2y - 3y^2$

3. Simplify each polynomial.

a) $7d - 2d + 1 - 6$

b) $-5 - 3 - k - 5k$

c) $-4 + 2a + 7 - 4a$

d) $3p - 6 - 4p + 6$

4. Simplify each polynomial.

a) $3a^2 - 2a - 4 + 2a - 3a^2 + 5$

b) $7z - z^2 + 3 + z^2 - 7$

c) $d^2 + 3d + 1 + 4d^2 + 2$

d) $-6x^2 + 10x - 4 + 4 - 12x - 7x^2$

5. Identify the equivalent polynomials. Justify your responses.

a) $-5y^2 - 3y - 4$

b) $10x - 1$

c) $1 + x - x^2$

d) $2y^2 - 4 - 16 - 7y^2 - 3y + 16$

e) $-7 + 5x - 7x - 8 + 14 + 12x$

f) $5x^2 + 7 + 4x - 6x^2 - 6 - x - 2x$

6. Write a polynomial to represent the perimeter of each rectangle.



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Extra Practice 3

Lesson 5.3: Adding Polynomials

1. Add these polynomials.

a) $(-4h + 1) + (6h + 3)$

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

c) $(3y^2 - 2y + 5) + (-y^2 + 6y + 3)$

d) $(3 - 2y + y^2) + (-1 + y - 3y^2)$

e) $(y^2 + 6y) + (-7y^2 + 2y)$

f) $(5n^2 + 5) + (-1 - 3n^2)$

g) $(y^2 + 6y - 5) + (-7y^2 + 2y - 2)$

h) $(-2n + 2n^2 + 2) + (-1 - 7n^2 + n)$

i) $(3m^2 + m) + (-10m^2 - m - 2)$

j) $(-3a^2 + 2) + (-2 - 7a^2 + a)$

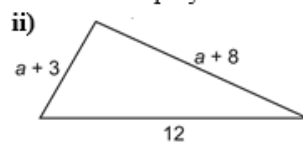
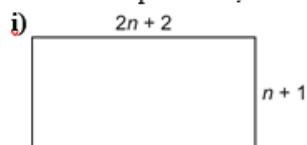
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2. Add these polynomials. Use algebra tiles if it helps.

a) $\underline{\quad}(x^2 - 4x + 3)$
 $\quad + \underline{\quad}(-x^2 - 2x - 3)$

b) $(3x^2 - 4x + 1)$
 $\quad + \underline{\quad}(-2x^2 + 4x + 1)$

5. a) For each shape below, write the perimeter as a sum of polynomials and in simplest form.



b) Use substitution to determine the value of the perimeter of each shape if $n = 5$ and $a = 10$

6. The sum of two polynomials is $4r + 5 - 3r^2$. One polynomial is $-8 - 2r^2 + 2r$; what is the other polynomial?

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Extra Practice 4



Lesson 5.4: Subtracting Polynomials

1. Subtract the following polynomials (Remember to show ALL work)

a) $(2s^2 + 3s + 6) - (s^2 + s + 2)$

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

c) $(4 - 8w) - (7w + 1)$

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

e) $(-9z^2 - z - 2) - (3z^2 - z - 3)$

f) $(mn - 5m - 7) - (-6n + 2m + 1)$

g) $(2a + 3b - 3a^2 + b^2) - (-a^2 + 8b^2 + 3a - b)$

h) $(xy - x - 5y + 4y^2) - (6y^2 + 9y - xy)$

4. Explain why the student's solution is incorrect.

$$\begin{aligned} &(3y^2 + 5y + 2) - (4y^2 + 3y + 2) \text{ like } \underline{\text{this}} \\ &= 3y^2 - 5y - 2 - 4y^2 - 3y - 2 \\ &= 3y^2 - 4y^2 - 5y - 3y - 2 - 2 \\ &= -y^2 - 8y - 4 \end{aligned}$$

Your Correct Work

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

5. The difference between two polynomials is $(5x + 3)$. One of the two polynomials is $(4x + 1 - 3x^2)$. What is the other polynomial? Explain how you found your answer.