

Week 1 - Subtopic 1.1-1.2 (31 Aug – 04 Sep 2026)

Lesson 11-1

Adding and Subtracting Polynomials

Reveal II Book – Lesson 11 Page: 629-644

Grade 10 Advance

Topic 1 _ KPIs

Topic 1	Polynomials
1.1	Subtopic: Adding and Subtracting Polynomials
Source: Reveal Math Integrated II -Section 11.1: Adding and Subtracting Polynomials	
1.1.1	Define and identify monomials <ul style="list-style-type: none">○ Identify the numerical coefficient and degree of a monomial
1.1.2	Recognize and classify similar monomials (like terms) <ul style="list-style-type: none">○ Two monomials are similar if they have the same variables with the same exponents
1.1.3	Determine whether an expression is a polynomial <ul style="list-style-type: none">○ Classify polynomials as monomial, binomial, trinomial, or with more than three terms
1.1.4	Classify polynomials by degree <ul style="list-style-type: none">○ Constant, linear, quadratic, cubic, quartic, quintic, 6th degree, and so on
1.1.5	Simplify polynomials and write them in simplest form
1.1.6	Determine the degree and leading coefficient of a polynomial
1.1.7	Add and subtract polynomials
1.1.8	Apply polynomials to model and solve geometric and real world applications

Vocabulary

polynomial

binomial

trinomial

degree of a monomial

degree of a polynomial

standard form of a
polynomial

leading coefficient

Degree	Name
0	constant
1	linear
2	quadratic
3	cubic
4	quartic
5	quintic
6 or more	6 th degree, 7 th degree, . . .



Starter Task

Simplify $8c + 6 - 4c + 2c^2$.

Real-Life connection

UAE Connection (If applicable)

Quiz or Exit Ticket



Identify Polynomials

<https://wayground.com/activity/admin/quiz/5d8413e962d492001bbd5d3d/classifying-naming-polynomials?page=search-result-page&source=search-result-page&referrer=/admin/search/all/identify%20polynomials>

High Level Questions



33. $(5n - 2p^2 + 2np) - (4p^2 + 4n)$

34. $(4rxt - 8r^2x + x^2) - (6rx^2 + 5rxt - 2x^2)$



Screenshot from Course Specs

QUESTIONS

Topic 1 Polynomials

1.1 Subtopic: Adding and Subtracting Polynomials



Book Questions

- | |
|---|
| 1.1.1 Define and identify monomials <ul style="list-style-type: none">○ Identify the numerical coefficient and degree of a monomial |
| 1.1.2 Recognize and classify similar monomials (like terms) <ul style="list-style-type: none">○ Two monomials are similar if they have the same variables with the same exponents |

Expression	Is it a polynomial ?	Degree	Classification
a. $3z^{-2}$			
b. $2x^3 + x - 12$			
c. $9b$			
d. $9x - 2$			

Topic 1 Polynomials

1.1 Subtopic: Adding and Subtracting Polynomials



Book Questions

- | | |
|-------|---|
| 1.1.1 | Define and identify monomials <ul style="list-style-type: none">○ Identify the numerical coefficient and degree of a monomial |
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Example 1

Determine whether each expression is a polynomial. If it is a polynomial, find the degree and determine whether it is a *monomial*, *binomial*, or *trinomial*.

1. $\frac{5y^3}{x^2} + 4x$

2. 21

3. $c^4 - 2c^2 + 1$

4. $d + 3d^c$

5. $a - a^2$

6. $5n^3 + nq^3$

**1.1 Subtopic: Adding and Subtracting Polynomials**

1.1.1 Define and identify monomials

- Identify the numerical coefficient and degree of a monomial

1.1.2 Recognize and classify similar monomials (like terms)

- Two monomials are similar if they have the same variables with the same exponents

1. Select all that are polynomials.

A. $49x^2 - 64$

B. $-7xy + \frac{2}{y}$

C. $45y^2 + y - y^3 + 8 + x^3$

D. -16

E. $3x^{-2} + 6x^2$

F. $49\sqrt{x} - 64$

**1.1 Subtopic: Adding and Subtracting Polynomials**

- | | |
|-------|--|
| 1.1.3 | Determine whether an expression is a polynomial <ul style="list-style-type: none">○ Classify polynomials as monomial, binomial, trinomial, or with more than three terms |
| 1.1.4 | Classify polynomials by degree <ul style="list-style-type: none">○ Constant, linear, quadratic, cubic, quartic, quintic, 6th degree, and so on |

2. Select all of the statements that are true.

- A. 25 is a monomial of degree 1.
- B. $5x^2 + 3\sqrt{x} + 1$ is not a polynomial.
- C. $8y^5 - 2y^3 + 27y^2$ is a trinomial of degree 10.
- D. The leading coefficient of $8y + 6y^3 + 2y^5$ is 2.
- E. $3xy^5 - 7x^2$ is a polynomial of degree 5.

5. Determine whether the given expression is a polynomial. If it is a polynomial, find the degree, and determine whether it is monomial, binomial, trinomial, or a polynomial with more than three terms

$$8ab - 3g$$

$$-101.5$$

$$2x^{-2} + 12xy$$

$$2x^3 - 16x + 5x - 27$$

$$9x^4 - 8x^2 + 5x - 27$$



Topic 1 Polynomials

1.1 Subtopic: Adding and Subtracting Polynomials

1.1.5 Simplify polynomials and write them in simplest form

1.1.6 Determine the degree and leading coefficient of a polynomial



Book Questions

Example 2

Write each polynomial in standard form. Identify the leading coefficient.

7. $5x^2 - 2 + 3x$

8. $8y + 7y^3$

9. $4 - 3c - 5c^2$

10. $-y^3 + 3y - 3y^2 + 2$

11. $11t + 2t^2 - 3 + t^5$

12. $2 + r - r^3$

13. $\frac{1}{2}x - 3x^4 + 7$

14. $-9b^2 + 10b - b^6$

Topic 1 Polynomials

1.1 Subtopic: Adding and Subtracting Polynomials

IPQ Questions



Student's Work

1.1.5 Simplify polynomials and write them in simplest form

1.1.6 Determine the degree and leading coefficient of a polynomial

4. Answer the following questions (i-ii).

i. Write the following polynomial in standard form. Then identify the leading coefficient.

$$4b^5 + 2b - 17b^6 - 4b^2$$

Standard form:

Leading Coefficient:

ii. Find the difference: $(5d^2 - 4cd + 3c^2) - (d^2 - 9cd - c^2)$

Topic 1 Polynomials

1.1 Subtopic: Adding and Subtracting Polynomials



Book Questions

1.1.7 Add and subtract polynomials

1.1.8 Apply polynomials to model and solve geometric and real world applications

Examples 3–5

Find each sum or difference.

15. $(2x + 3y) + (4x + 9y)$

16. $(6s + 5t) + (4t + 8s)$

17. $(5a + 9b) - (2a + 4b)$

18. $(11m - 7n) - (2m + 6n)$

19. $(m^2 - m) + (2m + m^2)$

20. $(x^2 - 3x) - (2x^2 + 5x)$

21. $(d^2 - d + 5) - (2d + 5)$

22. $(2h^2 - 5h) + (7h - 3h^2)$

**1.1 Subtopic: Adding and Subtracting Polynomials**

1.1.7 Add and subtract polynomials

1.1.8 Apply polynomials to model and solve geometric and real world applications

3. Find $(3 - 4x - 9x^2) - (-8x^2 + 7)$.

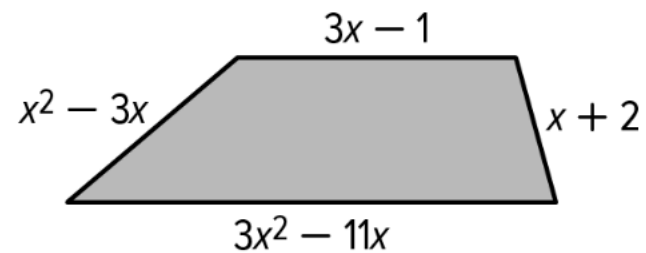
- A. $x^2 - 4x - 4$
- B. $-x^2 - 4x - 4$
- C. $-17x^2 - 4x + 10$
- D. $-11x^2 + 3x - 9x^2$

**1.1 Subtopic: Adding and Subtracting Polynomials**

1.1.7 Add and subtract polynomials

1.1.8 Apply polynomials to model and solve geometric and real world applications

6. What is the perimeter of this figure?



Perimeter = ____ x^2 + ____ x + ____

(Show your work)



1.1 Subtopic: Adding and Subtracting Polynomials

1.1.7 Add and subtract polynomials

1.1.8 Apply polynomials to model and solve geometric and real world applications

7. The volume of Box U is $(6x^2 + 8 - x + 9x^3)$. The volume of Box V is $(3x^3 + 7x + 5)$.
Write an expression in standard form to represent the difference of the between the
volume of Box U and the volume of Box V.

(Show your work)

Week 1 - Subtopic 1.1-1.2 (31 Aug – 04 Sep 2026)

Lesson 11-2 Multiplying Polynomials by Monomials

Reveal II Book – Lesson 11 Page: 629-644

Grade 10 Advance

Topic 2 _ KPIs

1.2 Subtopic: Multiplying Monomials and Polynomials

Source: Reveal Math Integrated II:
Section 11.2: Multiplying Polynomials by Monomials
Section 11.3: Multiplying Polynomials
Section 11.4: Special Products

1.2.1 Multiply a polynomial by a monomial and express the answer in standard form

1.2.2 Multiply different types of polynomials
○ Simplify and express in standard form

1.2.3 Solve equations with polynomials on both sides

1.2.4 Use remarkable identities to expand perfect squares $((a + b)^2$ & $(a - b)^2$) and difference of two squares $((a + b)(a - b))$

1.2.5 Solve geometric applications that involve polynomials

1.2.6 Demonstrate an ability to reason and solve real-world applications that involve polynomials

Topic 1 Polynomials

1.2 Subtopic: Multiplying Monomials and Polynomials

1.2.1 Multiply a polynomial by a monomial and express the answer in standard form

1.2.2 Multiply different types of polynomials

- Simplify and express in standard form



Book Questions

Simplify each expression.

35. $w(3w + 2) + 5w$

37. $-p(2p - 8) - 5p$

39. $2x(3x^2 + 4) - 3x^3$

36. $f(5f - 3) - 2f$

38. $y^2(-4y + 5) - 6y^2$

40. $4a(5a^2 - 4) + 9a$

Topic 1 Polynomials

IPQ Questions

1.2 Subtopic: Multiplying Monomials and Polynomials

1.2.1 Multiply a polynomial by a monomial and express the answer in standard form

1.2.2 Multiply different types of polynomials

- Simplify and express in standard form
-



Student's Work



1.2 Subtopic: Multiplying Monomials and Polynomials

1.2.1 Multiply a polynomial by a monomial and express the answer in standard form

1.2.2 Multiply different types of polynomials

- Simplify and express in standard form

1. Select the statements that are sometimes true.

- A. The product of two monomials is a binomial.
- B. The product of two binomials is a trinomial.
- C. The product of a binomial and a trinomial is a polynomial with four terms.
- E. The product of two binomials is a binomial.

**1.2 Subtopic: Multiplying Monomials and Polynomials**

1.2.1 Multiply a polynomial by a monomial and express the answer in standard form

1.2.2 Multiply different types of polynomials

- Simplify and express in standard form

2. Find the product of $(4h + 5)$ and $(h - 6)$.

A. $5h - 1$

B. $4h^2 - 19h - 30$

C. $4h^2 - 24h - 30$

D. $4h^2 - 30$

**1.2 Subtopic: Multiplying Monomials and Polynomials**

1.2.1 Multiply a polynomial by a monomial and express the answer in standard form

1.2.2 Multiply different types of polynomials

- Simplify and express in standard form

3. Find $(7x + 3)^2$

A. $21x^2 + 42x + 9$

B. $49x^2 + 42x + 9$

C. $49x^2 + 9$

D. $28x^2 + 42x + 18$



1.2 Subtopic: Multiplying Monomials and Polynomials

1.2.1 Multiply a polynomial by a monomial and express the answer in standard form

1.2.2 Multiply different types of polynomials

- Simplify and express in standard form
-

4. Find the product:

$$(2c^3 - 3c + 1)(4c^2 - 2c + 5)$$

Topic 1 Polynomials

1.2 Subtopic: Multiplying Monomials and Polynomials



Book Questions

1.2.3 Solve equations with polynomials on both sides

1.2.4 Use remarkable identities to expand perfect squares $((a + b)^2$ & $(a - b)^2$) and difference of two squares $((a + b)(a - b))$

Solve each equation.

45. $3(a + 2) + 5 = 2a + 4$

46. $2(4x + 2) - 8 = 4(x + 3)$

47. $5(y + 1) + 2 = 4(y + 2) - 6$

48. $4(b + 6) = 2(b + 5) + 2$

Topic 1 Polynomials

IPQ Questions

Student's Work

1.2 Subtopic: Multiplying Monomials and Polynomials



1.2.3 Solve equations with polynomials on both sides

1.2.4 Use remarkable identities to expand perfect squares $((a + b)^2$ & $(a - b)^2$) and difference of two squares $((a + b)(a - b))$



1.2 Subtopic: Multiplying Monomials and Polynomials

1.2.3 Solve equations with polynomials on both sides

1.2.4 Use remarkable identities to expand perfect squares $((a + b)^2$ & $(a - b)^2$) and difference of two squares $((a + b)(a - b))$

5. Solve $2h(h - 5) - 3h(h + 4) = h(6 - h) - 56$. (Show your work).

**1.2 Subtopic: Multiplying Monomials and Polynomials**

1.2.3 Solve equations with polynomials on both sides

1.2.4 Use remarkable identities to expand perfect squares $((a + b)^2$ & $(a - b)^2$) and difference of two squares $((a + b)(a - b))$

6. Solve the below equation, for q:

$$-2q(4q - 9) - q(-8q + 15) = 3(4q + 6)$$

A. -2

B. 2

C. $\frac{2}{5}$

D. $\frac{4}{3}$



1.2 Subtopic: Multiplying Monomials and Polynomials

1.2.3 Solve equations with polynomials on both sides

1.2.4 Use remarkable identities to expand perfect squares $((a + b)^2$ & $(a - b)^2$) and difference of two squares $((a + b)(a - b))$

7. Solve the equation $x(x + 2) + 4x = x^2 + 6$ for x .

- A. 0
- B. 1
- C. 2
- D. 3



1.2 Subtopic: Multiplying Monomials and Polynomials

1.2.3 Solve equations with polynomials on both sides

1.2.4 Use remarkable identities to expand perfect squares $((a + b)^2$ & $(a - b)^2$) and difference of two squares $((a + b)(a - b))$

8. Simplify the below expression:

$$(x^3 - 2x)(x^4 + 1)$$

Topic 1 Polynomials

IPQ Questions



Teacher's Work

1.2 Subtopic: Multiplying Monomials and Polynomials

1.2.3 Solve equations with polynomials on both sides

1.2.4 Use remarkable identities to expand perfect squares $((a + b)^2$ & $(a - b)^2$) and difference of two squares $((a + b)(a - b))$



1.2 Subtopic: Multiplying Monomials and Polynomials

1.2.3 Solve equations with polynomials on both sides

1.2.4 Use remarkable identities to expand perfect squares $((a + b)^2$ & $(a - b)^2$) and difference of two squares $((a + b)(a - b))$

13. Solve the equation $5b^2 - 5b + 7(b + 4) = 5(b^2 + 4)$.



1.2 Subtopic: Multiplying Monomials and Polynomials

1.2.3	Solve equations with polynomials on both sides
1.2.4	Use remarkable identities to expand perfect squares $((a + b)^2$ & $(a - b)^2$) and difference of two squares $((a + b)(a - b))$

14. Find each product.

i. $(2a - 3b)^2$

iii. $(6y - 13)(6y + 13)$

ii. $(g + 5h)^2$

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

Topic 1 Polynomials

1.2 Subtopic: Multiplying Monomials and Polynomials

1.2.5 Solve geometric applications that involve polynomials

1.2.6 Demonstrate an ability to reason and solve real-world applications that involve polynomials



Book Questions



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Topic 1 Polynomials

IPQ Questions

Student's Work



1.2 Subtopic: Multiplying Monomials and Polynomials

1.2.5 Solve geometric applications that involve polynomials

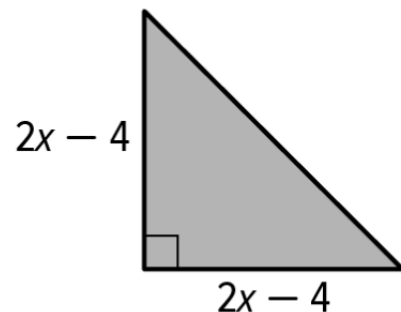
1.2.6 Demonstrate an ability to reason and solve real-world applications that involve polynomials

**1.2 Subtopic: Multiplying Monomials and Polynomials**

1.2.5 Solve geometric applications that involve polynomials

1.2.6 Demonstrate an ability to reason and solve real-world applications that involve polynomials

9. The right triangle shown has two sides that are each $2x - 4$ inches long.



If the area of a triangle is $A = \frac{1}{2}bh$, where b is the base and h is the height of the triangle, what is the area of the triangle shown above? (Write in simplest form).

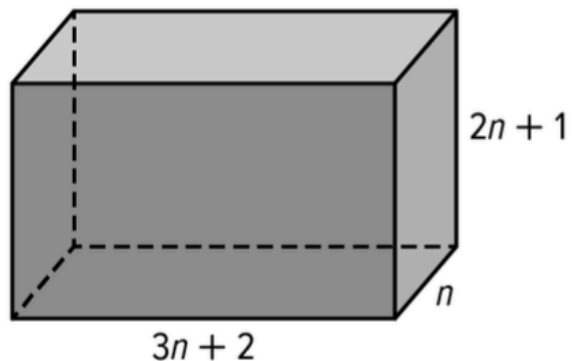
- A. $A = 4x^2 - 16x + 16$
- B. $A = 2x^2 - 8x + 8$
- C. $A = 2x^2 + 8x - 8$
- D. $A = 2x^2 - 4x + 8$

**1.2 Subtopic: Multiplying Monomials and Polynomials**

1.2.5 Solve geometric applications that involve polynomials

1.2.6 Demonstrate an ability to reason and solve real-world applications that involve polynomials

10. A cardboard box company designs all of its boxes so that they have a depth of n , a height of $2n + 1$, and a width of $3n + 2$.



Write an expression in standard form for the volume V of one of these boxes.

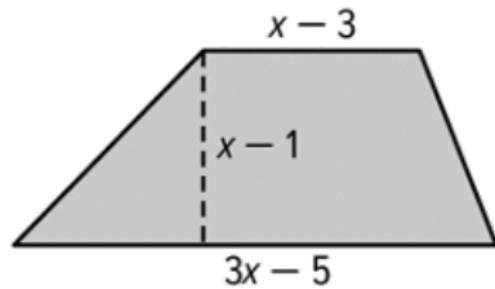
(Show your work).

**1.2 Subtopic: Multiplying Monomials and Polynomials**

1.2.5 Solve geometric applications that involve polynomials

1.2.6 Demonstrate an ability to reason and solve real-world applications that involve polynomials

11. The area of a trapezoid is one-half the height times the sum of the bases, $A = \frac{1}{2}h(b_1 + b_2)$.



The area of the trapezoid at the right is _____.



1.2 Subtopic: Multiplying Monomials and Polynomials

1.2.5 Solve geometric applications that involve polynomials

1.2.6 Demonstrate an ability to reason and solve real-world applications that involve polynomials

12. A horse farm is developing a new indoor arena in a rectangular building. They want the width of the building to be $4y$ feet and the length to be $2y + 9$ feet. Write an expression in simplest form to represent the area A of the building in terms of y .

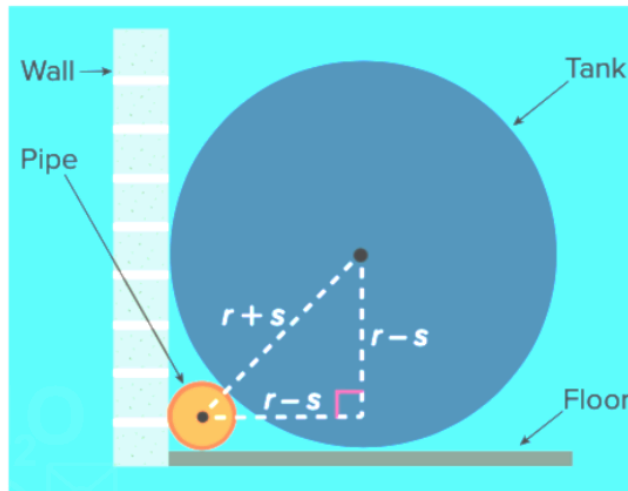


1.2 Subtopic: Multiplying Monomials and Polynomials

1.2.5 Solve geometric applications that involve polynomials

1.2.6 Demonstrate an ability to reason and solve real-world applications that involve polynomials

15. A cylindrical tank is placed along a wall. A cylindrical PVC pipe will be hidden in the corner behind the tank. See the side-view diagram shown. The radius of the tank is r inches, and the radius of the PVC pipe is s inches.



- i. Use the Pythagorean Theorem to write an equation for the relationship between the two radii. Simplify your equation so that there is a zero on one side of the equal sign.
- ii. Write a polynomial equation you could solve to find the radius s of the PVC pipe if the radius of the tank is 20 inches.