

Name _____

Date _____ Pd. _____

Notes: Adding and Subtracting Polynomials

Add Polynomials To add polynomials, you can group like terms horizontally or write them in column form, aligning like terms vertically. _____ are monomial terms that are either identical or differ only in their coefficients, such as $3p$ and $-5p$ or $2x^2y$ and $8x^2y$.

Example 1

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

Horizontal Method*Example 2*

Find $(3x^2 + 5xy) + (xy + 2x^2)$.

Vertical Method*Example*

Find $(3x^2 + 2x - 6) - (2x + x^2 + 3)$.

Horizontal Method**Vertical Method**

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Exit Card: Adding and Subtracting Polynomials

A company bought equipment for $x^2 + 5x$ dollars. One year later the value of the equipment was $x^2 + 2$ dollars. Which expression represents the amount that the equipment value decreased?

- A $(x^2 + 5x) - (x^2 + 2)$
- B $(x^2 + 2) - (x^2 - 5x)$
- C $(x^2 + 5x) \div (x^2 + 2)$
- D $(x^2 + 2) \times (x^2 + 5x)$

Barbara has x dollars to spend. Joe has $2x + 3$ dollars to spend. Which of these expressions represents the total amount of money Barbara and Joe have to spend?

- F $(2x + 3) + x$
- G $(2x + 3) - x$
- H $x(2x + 3)$
- J $(2x + 3) \div x, x \neq 0$

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Homework: Pages 441 – 443 (14, 15, 18, 19, 32, 33, 36 – 38, 45)

14. $(3 + a^2 + 2a) + (a^2 - 8a + 5)$

15. $(-3n^2 - 8 + 2n) + (5n + 13 + n^2)$

18. $(11 + 4d^2) - (3 - 6d^2)$

19. $(4g^3 - 5g) - (2g^3 + 4g)$

From 1990 to 1999, the number of indoor movie screens I and the total movie screens T in the U.S. could be modeled by the following equations, where n is the number of years since 1990.

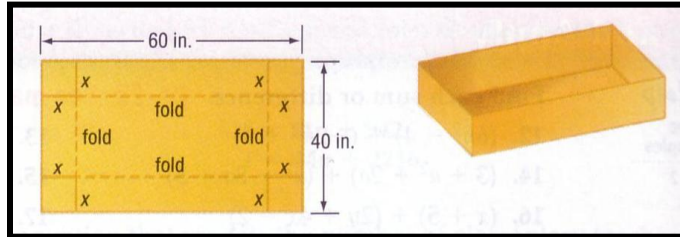
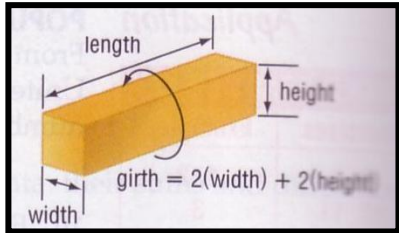
$$I = 161.6n^2 - 20n + 23,326$$

$$T = 160.3n^2 - 26n + 24,226$$

32. Find an equation that models the number of outdoor movie screens D in the U.S. for this time period.

33. If this trend continues, how many outdoor screens will there be in the year 2010?

The U.S. Postal Service restricts the sizes of boxes shipped by parcel post. The sum of the length and the girth of the box must not exceed 108 inches.



Suppose you want to make an open box using the 60-by-40 inch piece of cardboard by cutting squares out of each corner and folding up the flaps. The lid will be made from another piece of cardboard. You do not know how big the squares should be so for now call the length of the side of each square x .

36. Write a polynomial to represent the length of the box formed.
37. Write a polynomial to represent the width of the box formed.
38. Write a polynomial to represent the girth of the box formed.

45. The perimeter of the rectangle shown at the right is $16a + 2b$. Which of the following expressions represents the length of the rectangle?



- A $3a + 2b$ B $10a + 2b$ C $2a - 3b$ D $6a + 4b$