

Subtracting Polynomials v02
6.1

Name _____

Date _____

Subtract the polynomials.

1) $(2x + 6) - (-15x - 15)$

2) $(9x^7 - 20x^5 - 18) - (5x^7 + 2x^5 + 2)$

3) $(9y^5 - 13y^4) - (-17y^5 - 10y^4)$

4) $(2x^6 - 16x^5 - 19) - (-13x^5 + 9x^6 + 7)$

5) $(7x^7 + 2x^9 - 4 + 5x^8) - (9 + 3x^8 + 4x^9 - 5x^7)$

6) $(y^8 - y^3) - (y^5 - y)$

Use a vertical format to subtract the polynomials.

$$\begin{array}{r} 7) \quad 17x^3 + 14x^2 \\ \quad - (20x^3 + 7x^2) \\ \hline \end{array}$$

$$\begin{array}{r} 8) \quad 9y^7 - 13y^4 + 15 \\ \quad - (4y^7 + 9y^4 - 8) \\ \hline \end{array}$$

$$\begin{array}{r} 9) \quad 2y^7 + 2y^6 + 3y \\ \quad - (9y^7 - 13y^6 + 5y) \\ \hline \end{array}$$

$$\begin{array}{r} 10) \quad 8x^6 + 7x^5 + 7x^4 + 4 \\ \quad - (3x^6 - 9x^5 + 9x^4 - 6) \\ \hline \end{array}$$

$$\begin{array}{r} 11) \quad 3x^4 - 4x^3 + 5x^2 \\ \quad - (\quad - x^3 - 8x^2 + x - 15) \\ \hline \end{array}$$

$$\begin{array}{r} 12) \quad 0.06y^3 - 0.03y^2 + 0.06y \\ \quad - (0.08y^3 - 0.06y^2 - \quad y) \\ \hline \end{array}$$

Perform the indicated operations.

13) $[(1.6x^3 + 7.3x^2 + 4.3) + (6.5x - 2.1)] - (3.6x^2 - x - 9.6)$

14) $[(2x^9 + 11) - (-5x^7 + 7x^2)] - [(13x^9 - 5x^4 + 7x) + (9x^2 - 7x - 10)]$

15) Subtract $2 - 4x^3 + 3x^4 - 3x^2 + 7x$ from the sum of $-8x^2 + 7x - 6$ and $7x^4 - 8x^3$.

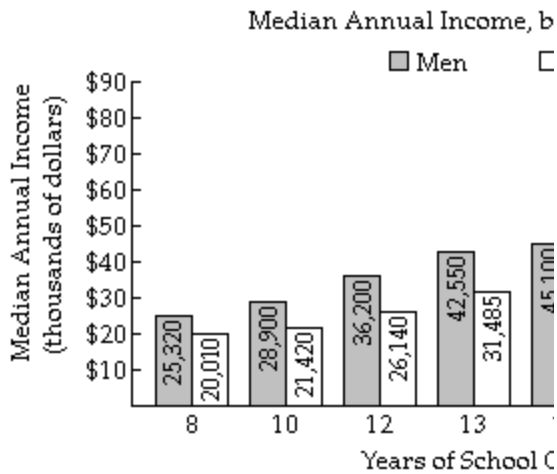
Solve.

- 16) The bar graph shows the median annual income for residents of a selected region of the United States, by level of education. The given polynomial models describe the median annual income for men, M , and for women, W , who have completed x years of education.

$$M = -23x^3 + 1170x^2 - 13,808x + 72,566$$

$$W = 8x^3 - 56x^2 + 511x + 14,763$$

Find a mathematical model for $M - W$ and use it to calculate the difference in the median annual income between men and women with 20 years of education. Does the model underestimate or overestimate the actual difference?

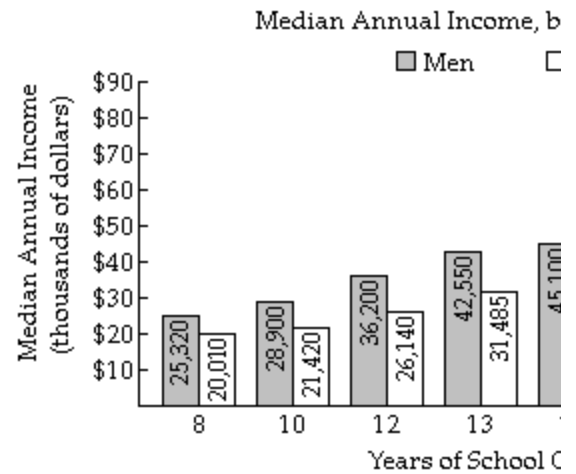


- 17) The bar graph shows the median annual income for residents of a selected region of the United States, by level of education. The given polynomial models describe the median annual income for men, M , and for women, W , who have completed x years of education.

$$M = -23x^3 + 1170x^2 - 13,808x + 72,566$$

$$W = 8x^3 - 56x^2 + 511x + 14,763$$

Find a mathematical model for $M - W$ and use it to calculate the difference in the median annual income between men and women with 14 years of education. Does the model underestimate or overestimate the actual difference?



Answer Key

Testname: 06SUBTRACTPOLYNOMIALSV02

- 1) $17x + 21$
- 2) $4x^7 - 22x^5 - 20$
- 3) $26y^5 - 3y^4$
- 4) $-7x^6 - 3x^5 - 26$
- 5) $-2x^9 + 2x^8 + 12x^7 - 13$
- 6) $y^8 - y^5 - y^3 + y$
- 7) $-3x^3 + 7x^2$
- 8) $5y^7 - 22y^4 + 23$
- 9) $-7y^7 + 15y^6 - 2y$
- 10) $5x^6 + 16x^5 - 2x^4 + 10$
- 11) $3x^4 - 3x^3 + 13x^2 - x + 15$
- 12) $-0.02y^3 + 0.03y^2 + 1.06y$
- 13) $1.6x^3 + 3.7x^2 + 7.5x + 11.8$
- 14) $-11x^9 + 5x^7 + 5x^4 - 16x^2 + 21$
- 15) $4x^4 - 4x^3 - 5x^2 - 8$
- 16) \$13,823; underestimates
- 17) \$12,569; overestimates