

2.1 Homework

Math I

p. 61 2 – 14 even, 15

p. 62 2 – 12 even, 15



Write the polynomial so that the exponents decrease from left to right. Identify the degree and leading coefficient of the polynomial.

2. $4x - 2x^2 + 3$

$$-2x^2 + 4x + 3$$

-2 : leading coefficient
 2 : degree

Tell whether the expression is a polynomial. If it is a polynomial, find its degree and classify it by the number of its terms. Otherwise, tell why it is not a polynomial.

4. 10^x

not a polynomial;
variable exponent

6. $w^{-3} + 5$

not a polynomial;
negative exponent



Find the sum or difference.

$$8. \quad \begin{array}{r} (8c^2 - 4c + 1) + (-3c^2 + c + 5) \\ \underline{\quad} \quad \underline{\quad} \quad \underline{\quad} \quad \underline{\quad} \quad \underline{\quad} \\ \underline{\quad} \quad \underline{\quad} \quad \underline{\quad} \quad \underline{\quad} \quad \underline{\quad} \end{array}$$

$$5c^2 - 3c + 6$$

$$10. \quad \begin{array}{r} (10b^2 - 3b + 2) - (4b^2 + 5b + 1) \\ \underline{\quad} \quad \underline{\quad} \quad \underline{\quad} \quad \underline{\quad} \quad \underline{\quad} \\ \underline{\quad} \quad \underline{\quad} \quad \underline{\quad} \quad \underline{\quad} \quad \underline{\quad} \end{array}$$

$$6b^2 - 3b + 2 - 4b^2 - 5b - 1$$

$$6b^2 - 8b + 1$$

$$12. \quad \begin{array}{r} (3m + 4) - (2m^2 - 6m + 5) \\ \underline{\quad} \quad \underline{\quad} \quad \underline{\quad} \quad \underline{\quad} \quad \underline{\quad} \\ \underline{\quad} \quad \underline{\quad} \quad \underline{\quad} \quad \underline{\quad} \quad \underline{\quad} \end{array}$$

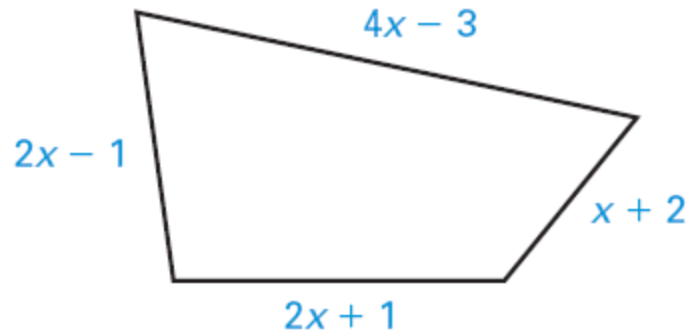
$$3m + 4 - 2m^2 + 6m - 5$$

$$= -2m^2 + 9m - 1$$



Write a polynomial that represents the perimeter of the figure.

14.

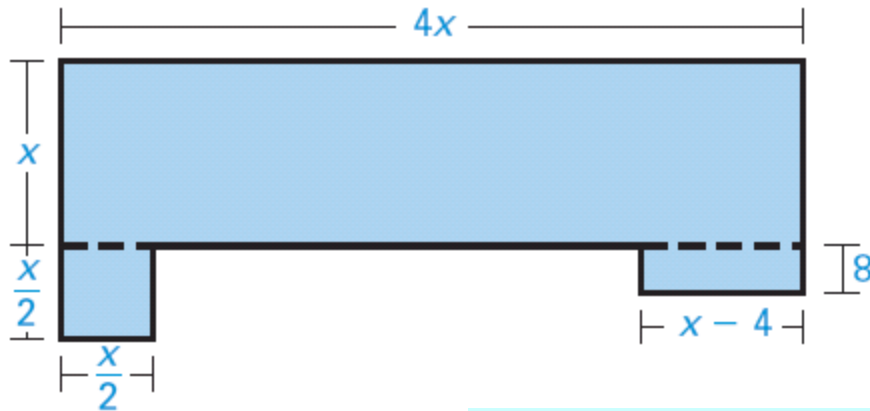


$$(2x - 1) + (4x - 3) + (x + 2) + (2x + 1)$$

$$9x - 1$$



15. **Floor Plan** The first floor of a home has the floor plan shown. Find the area of the first floor.



$$\text{Area} = \text{length} \bullet \text{width}$$

$$\text{Top} = 4x \bullet x$$

$$\text{Top} = 4x^2$$

$$\text{Right bottom} = (x - 4) \bullet 8$$

$$\text{Right bottom} = 8x - 32$$

$$\text{Left bottom} = \frac{x}{2} \bullet \frac{x}{2}$$

$$\text{Left bottom} = \frac{x^2}{4}$$

$$\text{Left bottom} = \frac{1}{4} x^2$$

$$\text{Total Area} = 4x^2 + \frac{1}{4} x^2 + 8x - 32$$

$$\text{Total Area} = 4\frac{1}{4} x^2 + 8x - 32$$



Tell whether the expression is a polynomial. If it is a polynomial, find its degree and classify it by the number of its terms. Otherwise, tell why it is not a polynomial.

2. $x^2 - 5x + x^{-1}$

not a polynomial;
negative exponent

Find the sum or difference.

4. $(\underline{3m^3} + \underline{2m} + \underline{1}) + (\underline{4m^2} - \underline{3m} + \underline{1})$

$3m^3 + 4m^2 - m + 2$

6. $(-4c + c^3 + 8) + (c^2 - 5c - 3)$

$\underline{c^3} - \underline{4c} + \underline{8} + \underline{c^2} - \underline{5c} - \underline{3}$

$c^3 + c^2 - 9c + 5$



Find the sum or difference.

8. $(14x^4 - 3x^2 + 2) - (3x^3 + 4x^2 + 5)$

$$14x^4 - 3x^2 + 2 - 3x^3 - 4x^2 - 5$$

$$14x^4 - 3x^3 - 7x^2 - 3$$



10. Find the sum $f(x) + g(x)$ and the difference $f(x) - g(x)$ for the functions $f(x) = -5x^2 + 2x - 1$ and $g(x) = 6x^3 + 2x^2 - 5$.

$$-5x^2 + 2x - 1 + 6x^3 + 2x^2 - 5$$



$$6x^3 - 3x^2 + 2x - 6$$

$$-5x^2 + 2x - 1 - (6x^3 + 2x^2 - 5)$$

$$-5x^2 + 2x - 1 - 6x^3 - 2x^2 + 5$$



$$-6x^3 - 7x^2 + 2x + 4$$



Find the sum or difference.

12. $(6m^2n - 5mn^2 - 8n + 2m) - (6n^2m + 3m^2n)$

$$6m^2n - 5mn^2 - 8n + 2m - 6n^2m - 3m^2n$$



$$3m^2n - 5mn^2 + 2m - 6n^2m - 8n$$

