

## Add &amp; Subtract Polynomials Homework

State whether each expression is a polynomial. If the expression is a polynomial, identify it as a monomial, a binomial, and a trinomial.

1. 14 <sup>yes</sup>  
monomial

2.  $3x^2 + x - 2$  <sup>yes</sup>  
trinomial

3.  $4g^3h^2 - 3g^2h$  <sup>yes</sup>  
binomial

Find the degree of each polynomial.

4.  $5x^3$  <sup>3rd degree</sup>  
cubic

5.  $9y$  <sup>1st degree</sup>  
linear

6.  $4ab^2$  <sup>2nd degree</sup>  
quadratic

7.  $-13$  none

8.  $c^4 + 7c^2$  <sup>4th degree</sup>

9.  $6n^3 - n^2p^2$  <sup>4th degree</sup>

10.  $3a^2b^3c^4 - 18a^5c$   
<sup>9</sup> <sup>6</sup>  
<sup>9th degree</sup>

11.  $2x^3 - 4y + 7xy$   
<sup>3</sup> <sup>1</sup> <sup>2</sup>  
<sup>3rd degree</sup>  
cubic

12.  $11r^2t^4 - 2s^4t^5 + 24$   
<sup>6</sup> <sup>9</sup> <sup>0</sup>  
<sup>9th degree</sup>

Arrange the terms of each polynomial so that the powers of x are in ascending order.

13.  $2x + 3x^2 - 1$

14.  $9x^3 + 7 - 3x^5$

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

$7 + 9x^3 - 3x^5$

15.  $c^2x^3 - c^3x^2 + 8c$

16.  $x^3 + 4a + 5a^2x^6$

$8c - c^3x^2 + c^2x^3$

$4a + x^3 + 5a^2x^6$

17.  $10x^3y^2 - 3x^9y + 5y^4 + 2x^2$

18.  $3xy^2 - 4x^3 + x^2y + 6y$

$5y^4 + 2x^2 + 10x^3y^2 - 3x^9y$

$6y + 3xy^2 + x^2y - 4x^3$

Arrange the terms of each polynomial so that the powers of x are in descending order.

19.  $5 + x^5 + 3x^3$

20.  $2x - 1 + 6x^2$

$x^5 + 3x^3 + 5$

$6x^2 + 2x - 1$

21.  $4a^3x^2 - 5a + 2a^2x^3$

22.  $b^2 + x^2 - 2xb$

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

$x^2 - 2xb + b^2$

23.  $8x - 9x^2y + 7y^2 - 2x^4$

24.  $4x^3y + 3xy^4 - x^2y^3 + y^4$

$-2x^4 - 9x^2y + 8x + 7y^2$

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

Find each sum or difference. Then write in descending order.

25.  $(6n^2 - 4) + (-2n^2 + 9)$

$$4n^2 + 5$$

26.  $(9z - 3z^2) + (4z - 7z^2)$

$$-10z^2 + 13z$$

27.  $(3 + a^2 + 2a) + (a^2 - 8a + 5)$

$$2a^2 - 6a + 8$$

28.  $(-3n^2 - 8 + 2n) + (5n + 13 + n^2)$

$$-2n^2 + 7n + 5$$

29.  $(x + 5) - (2y + 4x - 2)$

$$-3x - 2y + 7$$

30.  $(2b^3 - 4b + b^2) + (-9b^2 + 3b^3)$

$$5b^3 - 8b^2 - 4b$$

31.  $(11 + 4d^2) - (3 - 6d^2)$

$$10d^2 + 8$$

32.  $(-4y^3 - y + 10) - (4y^3 + 3y^2 - 7)$

$$-8y^3 - 3y^2 - y + 17$$

33.  $(4x + 5xy + 3y) - (3y + 6x + 8xy)$

$$-3xy - 2x$$

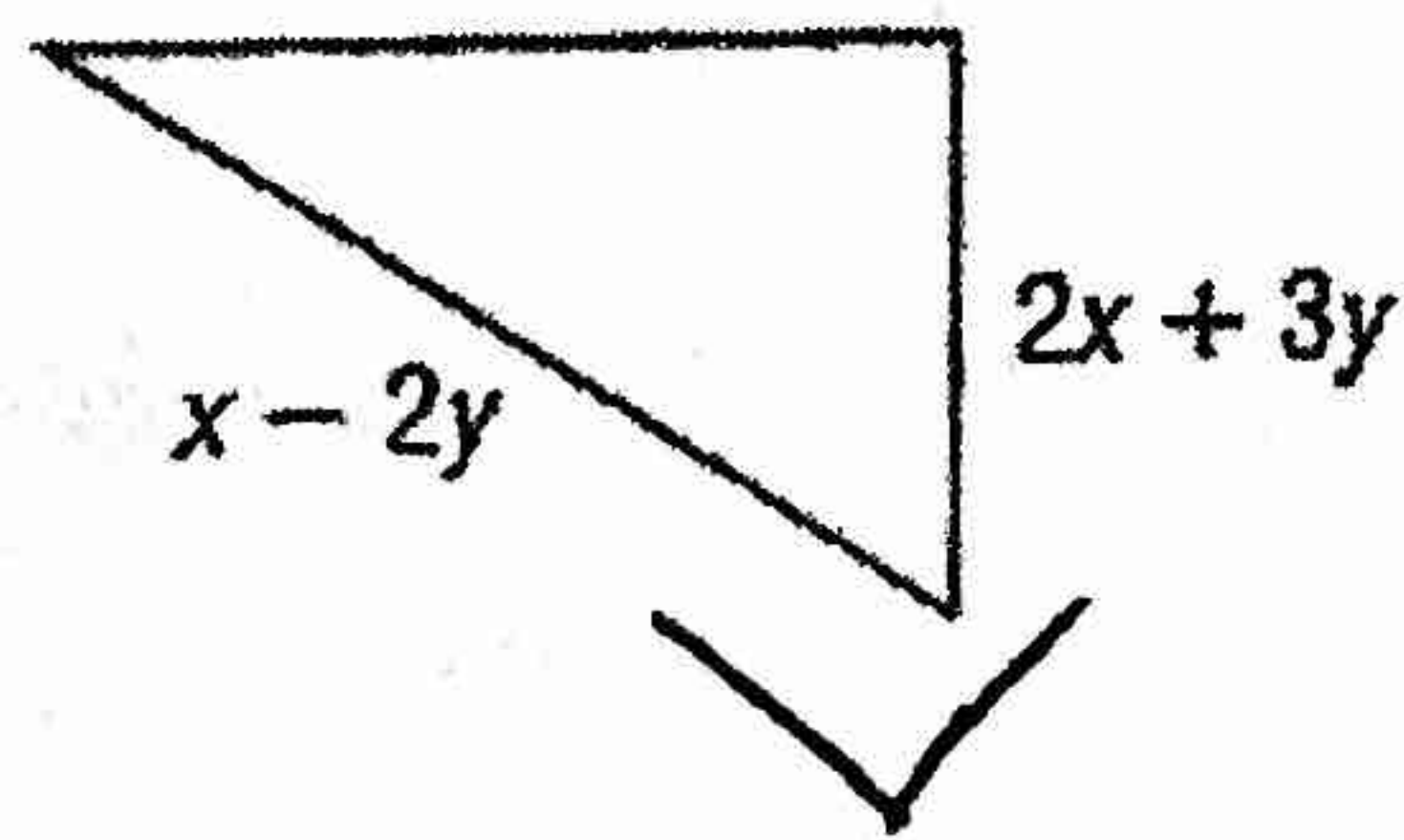
34.  $(3x^2 + 8x + 4) - (5x^2 - 4)$

$$-2x^2 + 8x + 8$$

The measure of two sides of a triangle are given. If P is the perimeter, find the measure of the third side.

35.

$$P = 7x + 3y$$

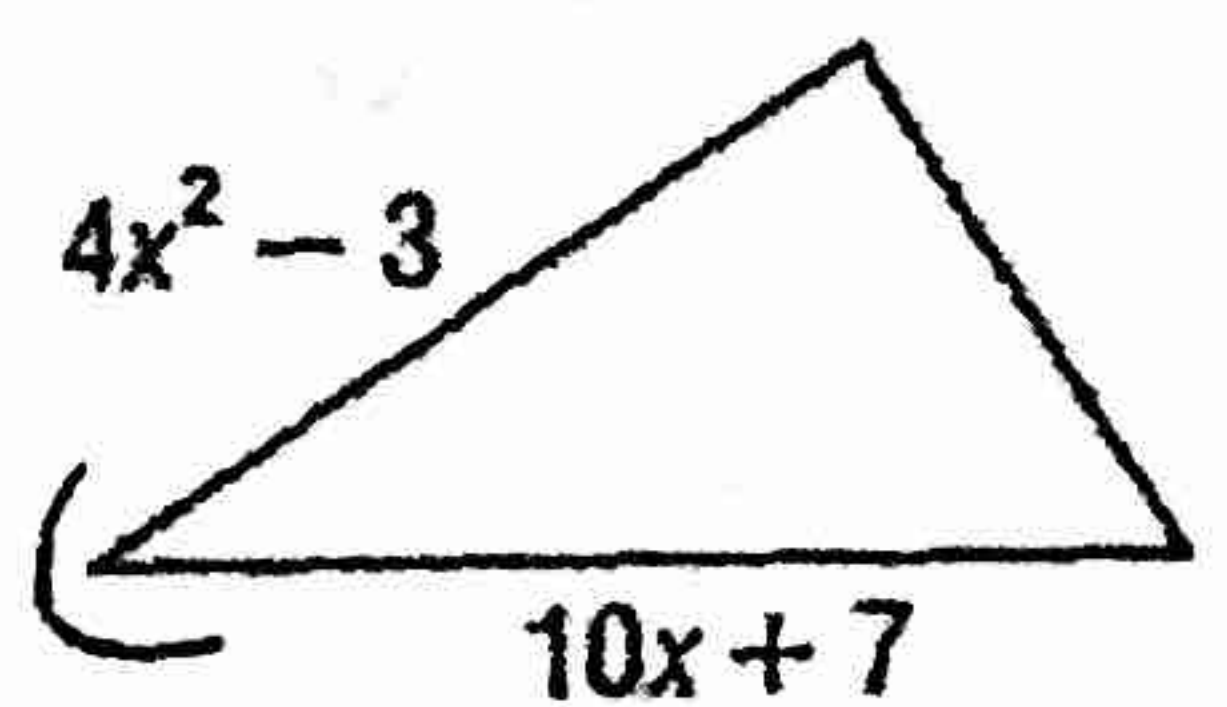


$$7x + 3y - 3x + y$$

$$4x + 2y \text{ units}$$

36.

$$P = 10x^2 - 5x + 16$$



$$10x^2 - 5x + 16 - (4x^2 + 10x + 4)$$

$$6x^2 - 15x + 12 \text{ units}$$