

Operations with Polynomials

 Find each product.

1) $9(6x + 2) =$ _____

9) $8(x^2 + 2x - 3) =$ _____

2) $8(3x + 7) =$ _____

10) $4(4x^2 - 2x + 1) =$ _____

3) $5(6x - 1) =$ _____

11) $2(3x^2 + 2x - 2) =$ _____

4) $-3(8x - 3) =$ _____

12) $8x(5x^2 + 3x + 8) =$ _____

5) $3x^2(6x - 5) =$ _____

13) $(9x + 1)(3x - 1) =$ _____

6) $5x^2(7x - 2) =$ _____

14) $(4x + 5)(6x - 5) =$ _____

7) $6x^3(-3x + 4) =$ _____

15) $(7x + 3)(5x - 6) =$ _____

8) $-7x^4(2x - 4) =$ _____

16) $(3x - 4)(3x + 8) =$ _____

 Solve each problem.

17) The measures of two sides of a triangle are $(2x + 3y)$ and $(5x - 2y)$. If the perimeter of the triangle is $(12x + 5y)$, what is the measure of the third side? _____

18) The height of a triangle is $(4x + 5)$ and its base is $(2x - 2)$. What is the area of the triangle? _____

19) One side of a square is $(6x + 9)$. What is the area of the square? _____

20) The length of a rectangle is $(5x - 2y)$ and its width is $(12x + 2y)$. What is the perimeter of the rectangle? _____

21) The side of a cube measures $(x + 2)$. What is the volume of the cube? _____

22) If the perimeter of a rectangle is $(16x + 8y)$ and its width is $(2x + y)$, what is the length of the rectangle? _____



Answers

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1) $54x + 18$

2) $24x + 56$

3) $30x - 5$

4) $-24x + 9$

5) $18x^3 - 15x^2$

6) $35x^3 - 10x^2$

7) $-18x^4 + 24x^3$

8) $-14x^5 + 28x^4$

9) $8x^2 + 16x - 24$

10) $16x^2 - 8x + 4$

11) $6x^2 + 4x - 4$

12) $40x^3 + 24x^2 + 64x$

13) $27x^2 - 6x - 1$

14) $24x^2 + 10x - 25$

15) $35x^2 + 27x - 18$

16) $9x^2 + 12x - 32$

17) $(5x + 4y)$

18) $8x^2 + 2x - 10$

19) $36x^2 + 108x + 81$

20) $34x$

21) $x^3 + 6x^2 + 12x + 6$

22) $(6x + 3y)$