

Add and Subtract Polynomial of Degree One and Two

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- 1** Which expression is equivalent to  $\frac{1}{2}x - (3x^2 - \frac{1}{2}x + 8) + 11 + (5x^2 - 22)$ ?
- A**  $2x^2 - 3$   
**B**  $2x^2 - 19$   
**C**  $-8x^2 + x + 25$   
**D**  $2x^2 + x - 19$

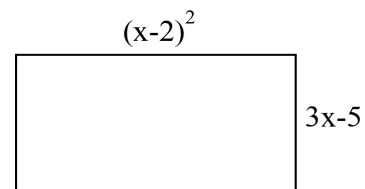
- 2** Which expression is equivalent to  $(\frac{2}{3}x + \frac{1}{5}y) - (\frac{1}{6}x - \frac{3}{4}y) + (\frac{5}{12}x + 2y)$ ?
- A**  $\frac{1}{2}x + \frac{6}{5}y$   
**B**  $\frac{11}{12}x + \frac{59}{20}y$   
**C**  $\frac{11}{12}x + \frac{29}{20}y$   
**D**  $\frac{11}{12}x + \frac{21}{20}y$

- 3** Sue Lynn has two gardens in her backyard, one for flowers and one for vegetables. The flower garden has an area that can be represented by the expression  $9x^2 - 12x - 5$ . The vegetable garden has an area that can be represented by the expression  $20x^2 - 7x - 3$ . Which expression can be used to represent how much larger the area of the vegetable garden is in comparison to the area of the flower garden?
- A**  $11x^2 - 19x - 8$   
**B**  $-11x^2 - 5x - 2$   
**C**  $11x^2 + 5x + 2$   
**D**  $-11x^2 - 19x - 8$

- 4 Rectangle  $ABCD$  has a length represented by the expression  $2x - 3$ , and a width represented by the expression  $4x + 5$ . Rectangle  $PQRS$  has a length represented by the expression  $x - 1$ , and a width represented by the expression  $3x + 2$ . Which expression can be used to represent the difference in the perimeters of Rectangle  $ABCD$  and Rectangle  $PQRS$ ?
- A  $2x + 1$   
B  $4x + 2$   
C  $20x + 6$   
D  $6x$
- 5 The area of rectangle  $ABCD$  is represented by the expression  $2x^2 - 13x + 21$ . The area of rectangle  $WXYZ$  is represented by the expression  $6x^2 + 29x - 5$ . Which expression represents the combined area of rectangles  $ABCD$  and  $WXYZ$ ?
- A  $8x^4 + 16x^2 + 16$   
B  $8x^2 + 16x + 16$   
C  $4x^2 + 42x - 26$   
D  $x^2 + 2x + 2$

- 6 The length and width of a rectangle are represented by  $2x + 3$  and  $x - 1$  respectively. Which of the following represents the perimeter of the rectangle?
- A  $3x + 2$   
B  $3x + 4$   
C  $6x + 4$   
D  $2x^2 + x - 3$

- 7 The length of the rectangle shown below is represented by the expression  $(x - 2)^2$ . The width is represented by the expression  $(3x - 5)$ . What is the perimeter of the rectangle?



- A  $2x^2 + 6x - 2$   
B  $x^2 + 3x - 1$   
C  $2x^2 - 2x - 2$   
D  $x^2 - x - 1$

- 8** Simplify the following polynomial expression.

$$(x^2 + 4x^2 + x^3 + x) + (x^3 + x + 5x + 5)$$

- A**  $2x^3 + 7x^2 + 7x + 5$   
**B**  $2x^6 + 5x^2 + 6x + 5$   
**C**  $2x^3 + 5x^2 + 7x + 5$   
**D**  $2x^6 + 4x^4 + 4x^3 + 5$
- 9** The sides of a rectangle have a length of  $x + 4$  units and a width of  $2x + 5$  units. Which of the following represents the perimeter of the rectangle?
- A**  $3x + 9$  units  
**B**  $6x + 18$  units  
**C**  $4x + 10$  units  
**D**  $2x + 8$  units

**10** Which expression is equivalent to  $2x^2 + (4x - 6x^2) + 9 - (6x + 3)$ ?

**A**  $-4x^2 - 2x + 12$

**B**  $-4x^2 - 2x + 6$

**C**  $-10x + 6$

**D**  $18x + 12$

**11** Which expression is equivalent to  $(10 + 7r - r^2) + (-6r^2 - 18 + 5r)$ ?

**A**  $-7r^2 + 2r + 8$

**B**  $7r^2 + 12r + 8$

**C**  $-7r^2 + 12r - 8$

**D**  $7r^2 + 2r - 8$