

A.A.13: Multiplication of Polynomials 1: Add, subtract, and multiply monomials and polynomials

- 1 What is the product of $2r^2 - 5$ and $3r$?
 - 1) $6r^3 - 15r$
 - 2) $6r^3 - 5$
 - 3) $6r^2 - 15r$
 - 4) $6r^2 - 15$
- 2 What is the product of $-3x^2y$ and $(5xy^2 + xy)$?
 - 1) $-15x^3y^3 - 3x^3y^2$
 - 2) $-15x^3y^3 - 3x^3y$
 - 3) $-15x^2y^2 - 3x^2y$
 - 4) $-15x^3y^3 + xy$
- 3 What is the product of $(c + 8)$ and $(c - 5)$?
 - 1) $c^2 + 3c - 40$
 - 2) $c^2 - 3c - 40$
 - 3) $c^2 + 13c - 40$
 - 4) $c^2 - 40$
- 4 What is the product of $(3x + 2)$ and $(x - 7)$?
 - 1) $3x^2 - 14$
 - 2) $3x^2 - 5x - 14$
 - 3) $3x^2 - 19x - 14$
 - 4) $3x^2 - 23x - 14$
- 5 The expression $(x - 6)^2$ is equivalent to
 - 1) $x^2 - 36$
 - 2) $x^2 + 36$
 - 3) $x^2 - 12x + 36$
 - 4) $x^2 + 12x + 36$
- 6 The expression $(a^2 + b^2)^2$ is equivalent to
 - 1) $a^4 + b^4$
 - 2) $a^4 + a^2b^2 + b^4$
 - 3) $a^4 + 2a^2b^2 + b^4$
 - 4) $a^4 + 4a^2b^2 + b^4$
- 7 The expression $(2x + 1)^2 - 2(2x^2 - 1)$ is equivalent to
 - 1) $4x + 3$
 - 2) $2x + 3$
 - 3) 3
 - 4) -1
- 8 The length of a rectangle is represented by $x^2 + 3x + 2$, and the width is represented by $4x$. Express the perimeter of the rectangle as a trinomial. Express the area of the rectangle as a trinomial.

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Answer Section

1 ANS: 1 REF: 010819a

2 ANS: 1 REF: 060807ia

3 ANS: 1

$$(c + 8)(c - 5) = c^2 - 5c + 8c - 40 = c^2 + 3c - 40$$

REF: 060708a

4 ANS: 3

$$(3x + 2)(x - 7) = 3x^2 - 21x + 2x - 14 = 3x^2 - 19x - 14$$

REF: 061210ia

5 ANS: 3

$$(x - 6)^2 = (x - 6)(x - 6) = x^2 - 6x - 6x + 36 = x^2 - 12x + 36$$

REF: 060015a

6 ANS: 3

$$(a^2 + b^2)^2 = (a^2 + b^2)(a^2 + b^2) = a^4 + a^2b^2 + a^2b^2 + b^4 = a^4 + 2a^2b^2 + b^4$$

REF: 010430a

7 ANS: 1 REF: 088917siii

8 ANS:

$$P = 2(x^2 + 3x + 2) + 2(4x) = 2x^2 + 6x + 4 + 8x = 2x^2 + 14x + 4 \quad A = 4x(x^2 + 3x + 2) = 4x^3 + 12x^2 + 8x$$

REF: 061538ia