

**A.A.13: Multiplication of Polynomials 2: Add, subtract, and multiply monomials and polynomials**

- 1 What is the product of  $2r^2 - 5$  and  $3r$ ?
- 2 What is the product of  $-3x^2y$  and  $(5xy^2 + xy)$ ?
- 3 What is the product of  $(c + 8)$  and  $(c - 5)$ ?
- 4 What is the product of  $(3x + 2)$  and  $(x - 7)$ ?
- 5 The expression  $(x - 6)^2$  is equivalent to
- 6 The expression  $(a^2 + b^2)^2$  is equivalent to
- 7 The expression  $(2x + 1)^2 - 2(2x^2 - 1)$  is equivalent to
- 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:

$$6r^3 - 15r$$

REF: 010819a

2 ANS:

$$-15x^3y^3 - 3x^3y^2$$

REF: 060807ia

3 ANS:

$$c^2 + 3c - 40$$

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

REF: 060708a

4 ANS:

$$3x^2 - 19x - 14$$

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

REF: 061210ia

5 ANS:

$$x^2 - 12x + 36$$

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

REF: 060015a

6 ANS:

$$a^4 + 2a^2b^2 + b^4$$

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

REF: 010430a

7 ANS:

$$4x + 3$$

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