

A.APR.A.1: Operations with Polynomials 1

- 1 What is the sum of $-3x^2 - 7x + 9$ and $-5x^2 + 6x - 4$?
 - 1) $-8x^2 - x + 5$
 - 2) $-8x^4 - x + 5$
 - 3) $-8x^2 - 13x + 13$
 - 4) $-8x^4 - 13x^2 + 13$

- 2 The sum of $3x^2 + 5x - 6$ and $-x^2 + 3x + 9$ is
 - 1) $2x^2 + 8x - 15$
 - 2) $2x^2 + 8x + 3$
 - 3) $2x^4 + 8x^2 + 3$
 - 4) $4x^2 + 2x - 15$

- 3 The sum of $8n^2 - 3n + 10$ and $-3n^2 - 6n - 7$ is
 - 1) $5n^2 - 9n + 3$
 - 2) $5n^2 - 3n - 17$
 - 3) $-11n^2 - 9n - 17$
 - 4) $-11n^2 - 3n + 3$

- 4 The sum of $3x^2 + 4x - 2$ and $x^2 - 5x + 3$ is
 - 1) $4x^2 + x - 1$
 - 2) $4x^2 - x + 1$
 - 3) $4x^2 + x + 1$
 - 4) $4x^2 - x - 1$

- 5 What is the sum of $x^2 - 3x + 7$ and $3x^2 + 5x - 9$?
 - 1) $4x^2 - 8x + 2$
 - 2) $4x^2 + 2x + 16$
 - 3) $4x^2 - 2x - 2$
 - 4) $4x^2 + 2x - 2$

- 6 What is the sum of $2m^2 + 3m - 4$ and $m^2 - 3m - 2$?
 - 1) $m^2 - 6$
 - 2) $3m^2 - 6$
 - 3) $3m^2 + 6m - 6$
 - 4) $m^2 + 6m - 2$

- 7 The sum of $3x^2 + x + 8$ and $x^2 - 9$ can be expressed as
 - 1) $4x^2 + x - 1$
 - 2) $4x^2 + x - 17$
 - 3) $4x^4 + x - 1$
 - 4) $3x^4 + x - 1$

- 8 The sum of $8x^2 - x + 4$ and $x - 5$ is
 - 1) $8x^2 + 9$
 - 2) $8x^2 - 1$
 - 3) $8x^2 - 2x + 9$
 - 4) $8x^2 - 2x - 1$

- 9 The sum of $4x^3 + 6x^2 + 2x - 3$ and $3x^3 + 3x^2 - 5x - 5$ is
 - 1) $7x^3 + 3x^2 - 3x - 8$
 - 2) $7x^3 + 3x^2 + 7x + 2$
 - 3) $7x^3 + 9x^2 - 3x - 8$
 - 4) $7x^6 + 9x^4 - 3x^2 - 8$

- 10 The expression $(3x^2 + 4x - 8) + 2(11 - 5x)$ is equivalent to
 - 1) $3x^2 - x + 5$
 - 2) $3x^2 - x + 14$
 - 3) $3x^2 - 6x + 14$
 - 4) $3x^2 + 14x + 14$

- 11 Which expression is equivalent to $2(x^2 - 1) + 3x(x - 4)$?
- 1) $5x^2 - 5$
 - 2) $5x^2 - 6$
 - 3) $5x^2 - 12x - 1$
 - 4) $5x^2 - 12x - 2$
- 12 The expression $-2(x^2 - 2x + 1) + (3x^2 + 3x - 5)$ is equivalent to
- 1) $x^2 + x - 4$
 - 2) $x^2 - x - 7$
 - 3) $x^2 + 7x - 4$
 - 4) $x^2 + 7x - 7$
- 13 Which polynomial is twice the sum of $4x^2 - x + 1$ and $-6x^2 + x - 4$?
- 1) $-2x^2 - 3$
 - 2) $-4x^2 - 3$
 - 3) $-4x^2 - 6$
 - 4) $-2x^2 + x - 5$
- 14 If $y = 3x^3 + x^2 - 5$ and $z = x^2 - 12$, which polynomial is equivalent to $2(y + z)$?
- 1) $6x^3 + 4x^2 - 34$
 - 2) $6x^3 + 3x^2 - 17$
 - 3) $6x^3 + 3x^2 - 22$
 - 4) $6x^3 + 2x^2 - 17$
- 15 What is the sum of $\frac{d}{2}$ and $\frac{2d}{3}$ expressed in simplest form?
- 1) $\frac{3d}{5}$
 - 2) $\frac{3d}{6}$
 - 3) $\frac{7d}{5}$
 - 4) $\frac{7d}{6}$
- 16 The expression $\frac{2n}{5} + \frac{3n}{2}$ is equivalent to
- 1) $\frac{5n}{7}$
 - 2) $\frac{6n^2}{10}$
 - 3) $\frac{19n}{10}$
 - 4) $\frac{7n}{10}$
- 17 The expression $\frac{5x}{6} + \frac{x}{4}$ is equivalent to
- 1) $\frac{3x}{5}$
 - 2) $\frac{5x^2}{10}$
 - 3) $\frac{13x}{12}$
 - 4) $\frac{5x}{24}$

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Answer Section

1 ANS: 1 REF: 011213ia

2 ANS: 2 REF: 081205ia

3 ANS: 1 REF: 081302ia

4 ANS: 2 REF: 010108a

5 ANS: 4 REF: 060805a

6 ANS: 2 REF: 080807a

7 ANS: 1 REF: 069904a

8 ANS: 2 REF: 080710a

9 ANS: 3 REF: 061003ia

10 ANS: 3

$$(3x^2 + 4x - 8) + 22 - 10x = 3x^2 - 6x + 14$$

REF: 082302ai

11 ANS: 4

$$2(x^2 - 1) + 3x(x - 4) = 2x^2 - 2 + 3x^2 - 12x = 5x^2 - 12x - 2$$

REF: 081903ai

12 ANS: 4

$$-2x^2 + 4x - 2 + 3x^2 + 3x - 5 = x^2 + 7x - 7$$

REF: 062404ai

13 ANS: 3 REF: 011813ai

14 ANS: 1

$$2(3x^3 + 2x^2 - 17)$$

REF: 081813ai

15 ANS: 4

$$\frac{(d \times 3) + (2 \times 2d)}{2 \times 3} = \frac{3d + 4d}{6} = \frac{7d}{6}$$

REF: fall0727ia

16 ANS: 3

$$\frac{2n}{5} + \frac{3n}{2} = \frac{4n + 15n}{10} = \frac{19n}{10}$$

REF: 011420ia

17 ANS: 3

$$\frac{(5x \times 4) + (6 \times x)}{6 \times 4} = \frac{20x + 6x}{24} = \frac{26x}{24} = \frac{13x}{12}$$

REF: 060625a