

**A.A.14: Division of Polynomials: Divide a polynomial by a monomial or binomial, where the quotient has no remainder**

- 1 When  $3x^2 - 6x$  is divided by  $3x$ , the result is
  - 1)  $-2x$
  - 2)  $2x$
  - 3)  $x + 2$
  - 4)  $x - 2$
- 2 What is  $6x^3 + 4x^2 + 2x$  divided by  $2x$ ?
  - 1)  $3x^2 + 2x$
  - 2)  $3x^2 + 2x + 1$
  - 3)  $4x^2 + 2x$
  - 4)  $4x^2 + 2x + 1$
- 3 When  $16x^3 - 12x^2 + 4x$  is divided by  $4x$ , the quotient is
  - 1)  $12x^2 - 8x$
  - 2)  $12x^2 - 8x + 1$
  - 3)  $4x^2 - 3x$
  - 4)  $4x^2 - 3x + 1$
- 4 When  $6y^6 - 18y^3 - 12y^2$  is divided by  $-3y^2$ , the quotient is
  - 1)  $2y^4 - 6y^2 - 4y$
  - 2)  $3y^4 + 6y + 4$
  - 3)  $-2y^4 + 6y + 4$
  - 4)  $-2y^3 - 6y^2 - 4y$
- 5 What is  $24x^2y^6 - 16x^6y^2 + 4xy^2$  divided by  $4xy^2$ ?
  - 1)  $6xy^4 - 4x^5$
  - 2)  $6xy^4 - 4x^5 + 1$
  - 3)  $6x^2y^3 - 4x^6y$
  - 4)  $6x^2y^3 - 4x^6y + 1$
- 6 The expression  $(50x^3 - 60x^2 + 10x) \div 10x$ 
  - 1)  $5x^2 - 6x + 1$
  - 2)  $5x^3 - 6x^2 + x$
  - 3)  $5x^2 - 60x^2 + 10x$
  - 4)  $5x^2 - 6x$
- 7 If  $x \neq 0$ , the expression  $\frac{x^2 + 2x}{x}$  is equivalent to
  - 1)  $x + 2$
  - 2)  $2$
  - 3)  $3x$
  - 4)  $4$
- 8 Which expression represents  $\frac{12x^3 - 6x^2 + 2x}{2x}$  in simplest form?
  - 1)  $6x^2 - 3x$
  - 2)  $10x^2 - 4x$
  - 3)  $6x^2 - 3x + 1$
  - 4)  $10x^2 - 4x + 1$
- 9 Which polynomial is the quotient of  $\frac{6x^3 + 9x^2 + 3x}{3x}$ ?
  - 1)  $2x^2 + 3x + 1$
  - 2)  $2x^2 + 3x$
  - 3)  $2x + 3$
  - 4)  $6x^2 + 9x$
- 10 The quotient of  $\frac{8x^5 - 2x^4 + 4x^3 - 6x^2}{2x^2}$  is
  - 1)  $16x^7 - 4x^6 + 8x^5 - 12x^4$
  - 2)  $4x^7 - x^6 + 2x^5 - 3x^4$
  - 3)  $4x^3 - x^2 + 2x - 3x$
  - 4)  $4x^3 - x^2 + 2x - 3$
- 11 Express in simplest form:  $\frac{45a^4b^3 - 90a^3b}{15a^2b}$

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**Answer Section**

- 1 ANS: 4 REF: 060506a  
 2 ANS: 2 REF: 080817a  
 3 ANS: 4 REF: 011412ia  
 4 ANS: 3 REF: spring9807a  
 5 ANS: 2 REF: 011316ia  
 6 ANS: 1 REF: 010724a  
 7 ANS: 1

$$\frac{x^2 + 2x}{x} = x + 2$$

REF: 010109a

- 8 ANS: 3

$$\frac{12x^3 - 6x^2 + 2x}{2x} = \frac{2x(6x^2 - 3x + 1)}{2x} = 6x^2 - 3x + 1$$

REF: 011011ia

- 9 ANS: 1

$$\frac{3x(2x^2 + 3x + 1)}{3x} = 2x^2 + 3x + 1$$

REF: 060102a

- 10 ANS: 4 REF: 061203ia

- 11 ANS:

$$3a^2b^2 - 6a. \frac{45a^4b^3 - 90a^3b}{15a^2b} = \frac{45a^4b^3}{15a^2b} - \frac{90a^3b}{15a^2b} = 3a^2b^2 - 6a$$

REF: 081031ia