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) $x - 2$

5 If $x \neq 0$, the expression $\dfrac{x^2 + 2x}{x}$ is equivalent to
1) $x + 2$
2) 2
3) $3x$
4) 4

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) $4x^2 + 2x + 1$

6 Which expression represents $\dfrac{12x^3 - 6x^2 + 2x}{2x}$ in simplest form?
1) $6x^2 - 3x$
2) $10x^2 - 4x$
3) $6x^2 - 3x + 1$
4) $10x^2 - 4x + 1$

3 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) $-2y^3 - 6y^2 - 4y$

7 Which polynomial is the quotient of $\dfrac{6x^3 + 9x^2 + 3x}{3x}$?
1) $2x^2 + 3x + 1$
2) $2x^2 + 3x$
3) $2x + 3$
4) $6x^2 + 9x$

4 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) $5x^2 - 6x$

8 The quotient of $\dfrac{8x^5 - 2x^4 + 4x^3 - 6x^2}{2x^2}$ 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) $4x^3 - x^2 + 2x - 3$

9 Express in simplest form: $\dfrac{45a^4b^3 - 90a^3b}{15a^2b}$

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Answer Section

1 ANS: 4   REF: 060506a
2 ANS: 2   REF: 080817a
3 ANS: 3   REF: spring9807a
4 ANS: 1   REF: 010724a
5 ANS: 1

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

   REF: 010109a
6 ANS: 3

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

   REF: 011011ia
7 ANS: 1

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

   REF: 060102a
8 ANS: 4   REF: 061203ia
9 ANS:

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

   REF: 081031ia