NAME:_____

Divide:

1. $(h^3+64) \div (h+4)$

   [A] h^2+16 [B] $h^2-4h+16$

   [C] $h^2+4h+16$ [D] h^2-16

2. $(k^3-8) \div (k-2)$

   [A] k^2+2k+4 [B] k^2-4

   [C] k^2-2k+4 [D] k^2+4

3. $(r^3+216) \div (r+6)$

   [A] r^2+36 [B] $r^2+6r+36$

   [C] r^2-36 [D] $r^2-6r+36$

4. Divide $3x^3+3x-3$ by $x+2$.

   [A] $3x^2-6x-9+\frac{18}{x+2}$

   [B] $3x^2-6x+15-\frac{33}{x+2}$

   [C] $3x^2-3x-6+\frac{9}{x+2}$

   [D] $3x^2-3x+3-\frac{6}{x+2}$

5. Divide $2x^3-5x+4$ by $x-3$.

   [A] $2x^2+6x+13+\frac{43}{x-3}$

   [B] $2x^2+x+7+\frac{21}{x-3}$

   [C] $2x^2+x-3-\frac{5}{x-3}$

   [D] $2x^2+6x-23-\frac{70}{x-3}$

6. Divide $-2x^3+x+1$ by $x+3$.

   [A] $-2x^2+6x-17+\frac{52}{x+3}$

   [B] $-2x^2+7x-20+\frac{60}{x+3}$

   [C] $-2x^2+7x+21-\frac{62}{x+3}$

   [D] $-2x^2+6x+19-\frac{55}{x+3}$

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7. Compare the quantity in Column A with the quantity in Column B.
the quotient of $(x^3 + x^2 + 7x + 26) \div (x - 2)$

Column A	Column B
the coefficient of the x^2 term	the constant term

[A] The quantity in Column A is greater. [B] The quantity in Column B is greater.

[C] The two quantities are equal.

[D] The relationship cannot be determined on the basis of the information supplied.

8. The sum of a set of data can be modeled by the expression $x^3 + x^2 - 2x$. Write an expression in simplest form for the mean of this data if the are $(x - 1)$ data items.

9. The design for a new ski slope can be modeled by $y = -x^3 + 17x^2 - 110x + 400$.
Use division to prove that $x = 10$ is a real root of this function.

10. Divide $x^3 + 3x^2 - 10x - 24$ by $x + 4$ to find all the zeros of the polynomial.

[A] $4, -2, 3$ [B] $-4, 3, -2$ [C] $-4, 2, 3$ [D] $0, -4, -2$

[1] B

[2] A

[3] D

[4] B

[5] A

[6] A

[7] B

[8] $x(x+2)$

[9] $(-x^3+17x^2-110x+400)\div(x-10)=-x^2+7x-40$ with no remainder, so $x=10$ is a real root of the function.

[10] B