Lesson 8-5: Division Properties of Exponents

Part 1: Dividing Powers with the Same Base

1. 080405a, P.I. A.A.12

When $-9x^5$ is divided by $-3x^3$, $x \neq 0$, the quotient is

[A] $-27x^{15}$ [B] $-3x^2$

[C] $27x^8$ [D] $3x^2$

2. 060005a, P.I. A.A.12

The quotient of $-\frac{15x^8}{5x^2}$, $x \neq 0$, is

[A] $-3x^6$ [B] $-3x^4$

[C] $-10x^4$ [D] $-10x^6$

3. 060707a, P.I. A.A.12

The expression $\frac{-32x^8}{4x^2}$, $x \neq 0$, is equivalent to

[A] $-8x^4$ [B] $-8x^6$

[C] $8x^4$ [D] $8x^6$

4. 060518a, P.I. A.A.12

If $x \neq 0$, then $\frac{(x^2)^3}{x^5} \cdot 1000$ is equivalent to

[A] $1000x$ [B] 1000

[C] $1000 + x$ [D] 0

5. 080526a, P.I. A.A.12

The expression $\frac{5x^6y^2}{x^8y}$ is equivalent to

[A] $\frac{5y}{x^2}$ [B] $\frac{5y^3}{x^{14}}$

[C] $5x^{14}y^3$ [D] $5x^2y$

6. 010817a, P.I. A.A.12

The expression $\frac{4x^2y^3}{2xy^4}$ is equivalent to

[A] $-2xy$ [B] $2xy$ [C] $\frac{2x}{y}$ [D] $\frac{2y}{x}$

7. fall0703ia, P.I. A.A.12

Which expression represents $\frac{(2x^3)(8x^5)}{4x^6}$ in simplest form?

[A] x^9 [B] $4x^2$ [C] $4x^9$ [D] x^2

8. 080415b, P.I. A.A.12

The expression $\frac{(b^{2n+1})^3}{b^n \cdot b^{4n+3}}$ is equivalent to

[A] $\frac{b^n}{2}$ [B] b^n [C] b^{-3n+1} [D] b^{-3n}

9. 060207a, P.I. A.N.4

If 3.85×10^6 is divided by 385×10^4, the result is

[A] 0.01 [B] 1

[C] 3.85×10^4 [D] 3.85×10^{10}

10. 010319a, P.I. A.N.4

What is the value of $\frac{6.3\times10^8}{3\times10^4}$ in scientific notation?

[A] 2.1×10^2 [B] 2.1×10^{-2}

[C] 2.1×10^4 [D] 2.1×10^{-4}

11. fall0725ia, P.I. A.N.4

What is the quotient of 8.05×10^6 and 3.5×10^2?

[A] 2.3×10^3 [B] 2.3×10^4

[C] 2.3×10^8 [D] 2.3×10^{12}

12. 060308b, P.I. A.N.4

Two objects are 2.4×10^{20} centimeters apart. A message from one object travels to the other at a rate of 1.2×10^5 centimeters per second. How many seconds does it take the message to travel from one object to the other?

[A] 2.0×10^4 [B] 2.88×10^{25}

[C] 1.2×10^{15} [D] 2.0×10^{15}

[1] D

[2] A

[3] B

[4] A

[5] A

[6] C

[7] B

[8] B

[9] B

[10] C

[11] B

[12] D