Laws of Exponents

High School Common Core: Number and Quantity

Exam Questions (No calculator)

Name:_____

Pd:____ Date:_____

1. Simplify: $(-4b^3)(2b^5)$

A) $-2b^{15}$
B) $-8b^8$
C) $-2b^8$
D) $-8b^{15}$

2. Simplify $\frac{-9a^5b^8}{3a^2b^4}$

A) $\frac{-6a^3}{b^4}$

B) $3a^3b^2$

C) $-3a^3b^4$

D) $-3a^3b^2$

3. Simplify: $(-2a^3 \bullet -a^4)^2(-6a^2)$

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4. Simplify: $(-6p^2q^3)^2$

A) $12p^4q^5$
B) $36p^4q^6$
C) $12p^4q^6$
D) $36p^4q^5$

5. Simplify $\frac{a^2b^{-7}}{a^{-4}b^{-2}}$

A) $\frac{a^2}{b^9}$ B) a^6b^5

C) $\frac{a^6}{b^5}$ D) $\frac{b^5}{a^6}$

6. Simplify $(-3n^{-4})(-5n^7)$

7. Simplify $\frac{6x^2y^3}{(-4x^4y)(-3x^3y^2)}$

A) $\frac{1}{2x^5}$ B) $\frac{y}{2x^5}$

C) $\frac{2}{x^5}$ D) $\frac{2y}{x^5}$

8. Simplify (½ pt each)

A) $-2^3 =$ _____

B) $8^2 =$ _____

C) $9^{-1} =$ _____

D) $(-4)^{-2} =$ _____

9. Simplify $(-3p^{-3}q \bullet 3p^3q^{-4})^2$

A) $81pq^6$ B) $\frac{1}{81q^6}$

C) $81q^6$ D) $\frac{81}{q^6}$

10. Simplify: $(5x^4)^3$

A) $125x^{12}$
B) $25x^{12}$
C) $125x^7$
D) $25x^7$

11. Simplify $(-4a^2)(2a^{-3})^{-4}$

A) $\frac{a^{14}}{-4}$ B) $\frac{1}{-4a^{10}}$

C) $-4a^{10}$ D) $-64a^{14}$

12. Simplify $\frac{28x^5}{14x^{-4}}$

A) $\frac{2}{x^9}$ B) $2x$

C) $2x^9$ D) $\frac{2}{x}$

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13. Simplify $(-7x^4y^2)(-2x^3y)$

A) $14x^7y^2$
B) $-7x^7y^3$
C) $14x^7y^3$
D) $14x^{12}y^2$

14. Simplify $(4m^{-4}n^3)^{-2}$

A) $\frac{16m^8}{n^6}$ B) $\frac{-8m^8}{n^6}$

C) $\frac{m^8n^6}{16}$ D) $\frac{m^8}{16n^6}$

15. Simplify: $\frac{(4a^{-1}b^{-4})^{-3}}{(-8a^4b^{-2})^{-2}}$

16. Simplify $(2p^{-3})^5$

17. Simplify $(-2c^{-4}d^{-1})(5c^2d^{-3})$

A) $\frac{c^2}{-10d^4}$ B) $\frac{-10d^3}{c^8}$

C) $\frac{-10}{c^2d^4}$ D) $\frac{-10d^4}{c^2}$

18. Simplify: $\frac{-9b^{-5}}{(-3b^{-1} \bullet b^{-4})^3}$

19. Simplify: $(-7x^3y^4)^2(x^2y^5)$

20. Simplify: $\frac{5a^7}{10a^3}$

A) $2a^4$ B) $\frac{1}{2a^4}$

C) $\frac{a^4}{2}$ D) $\frac{a^4}{5}$

21. Simplify $\frac{n^5}{(-2n^4)^3}$

A) $\frac{1}{-6n^7}$ B) $\frac{1}{-8n^7}$

C) $-6n^2$ D) $-8n^2$

22. Simplify $(-8a^5b^7)^0$

A) 0 B) 1

C) $-8a^5b^7$ D) $\frac{1}{-8a^5b^7}$

LIVEWORKSHEETS