

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: $(-2a^3 \cdot -a^4)^2(-6a^2)$
4. Simplify: $(-6p^2q^3)^2$ A) $12p^4q^6$ 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 $(-3p^{-3}q \cdot 3p^3q^{-4})^2$ 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) $\frac{2}{x}$

<p>13. Simplify $(-7x^4y^2)(-2x^3y)$</p> <p>A) $14x^7y^2$ B) $-7x^7y^3$ C) $14x^7y^3$ D) $14x^{12}y^2$</p>	<p>14. Simplify $(4m^{-4}n^3)^{-2}$</p> <p>A) $\frac{16m^8}{n^6}$ B) $-\frac{8m^8}{n^6}$ C) $\frac{m^8n^6}{16}$ D) $\frac{m^8}{16n^6}$</p>	<p>15. Simplify: $\frac{(4a^{-1}b^4)^{-3}}{(-8a^4b^{-2})^{-2}}$</p>
<p>16. Simplify $(2p^{-3})^5$</p>	<p>17. Simplify $(-2c^{-4}d^{-1})(5c^2d^{-3})$</p> <p>A) $\frac{c^2}{-10d^4}$ B) $-\frac{10d^3}{c^8}$ C) $\frac{-10}{c^2d^4}$ D) $-\frac{10d^4}{c^2}$</p>	<p>18. Simplify: $\frac{-9b^{-5}}{(-3b^{-1} \cdot b^{-4})^3}$</p>
<p>19. Simplify: $(-7x^3y^4)^2(x^2y^5)$</p>	<p>20. Simplify: $\frac{5a^7}{10a^3}$</p> <p>A) $2a^4$ B) $\frac{1}{2a^4}$ C) $\frac{a^4}{2}$ D) $\frac{a^4}{5}$</p>	<p>21. Simplify $\frac{n^5}{(-2n^4)^3}$</p> <p>A) $\frac{1}{-6n^7}$ B) $\frac{1}{-8n^7}$ C) $-6n^2$ D) $-8n^2$</p>
<p>22. Simplify $(-8a^5b^7)^0$</p> <p>A) 0 B) 1 C) $-8a^5b^7$ D) $\frac{1}{-8a^5b^7}$</p>		

Laws of Exponents**High School Common Core: Number and Quantity****ANSWER KEY**

Exam Questions (No calculator)

<p>1. Simplify: $(-4b^3)(2b^5)$</p> <p>A) $-2b^{15}$ B) $-8b^8$ C) $-2b^8$ D) $-8b^{15}$</p>	<p>2. Simplify $\frac{-9a^5b^8}{3a^2b^4}$</p> <p>A) $\frac{-6a^3}{b^4}$ B) $3a^3b^2$ C) $-3a^3b^4$ D) $-3a^3b^2$</p>	<p>3. Simplify: $(-2a^3 \cdot -a^4)^2(-6a^2)$</p> <p>$-24a^{16}$</p>
<p>4. Simplify: $(-6p^2q)^2$</p> <p>A) $12p^4q$ B) $36p^4q^6$ C) $12p^4q^6$ D) $36p^4q$</p>	<p>5. Simplify $\frac{a^2b^{-7}}{a^4b^{-2}}$</p> <p>A) $\frac{a^2}{b^9}$ B) a^6b^5 C) $\frac{a^6}{b^5}$ D) $\frac{b^5}{a^6}$</p>	<p>6. Simplify $(-3n^4)(-5n^7)$</p> <p>$15n^3$</p>
<p>7. Simplify $\frac{6x^2y^3}{(-4x^4y)(-3x^3y^2)}$</p> <p>A) $\frac{1}{2x^5}$ B) $\frac{y}{2x^5}$ C) $\frac{2}{x^5}$ D) $\frac{2y}{x^5}$</p>	<p>8. Simplify (½ pt each)</p> <p>A) $-2^3 =$ _____ -8 B) $8^2 =$ _____ 64 C) $9^{-1} =$ _____ 1/9 D) $(-4)^{-2} =$ _____ 1/16</p>	<p>9. Simplify $(-3p^{-3}q \cdot 3p^3q^{-4})^2$</p> <p>A) $81pq^6$ B) $\frac{1}{81q^6}$ C) $81q^6$ D) $\frac{81}{q^6}$</p>
<p>10. Simplify: $(5x^4)^3$</p> <p>A) $\frac{125x^{12}}{25x^{12}}$ B) $\frac{125x^{12}}{25x^7}$ C) $125x^7$ D) $25x^7$</p>	<p>11. Simplify $(-4a^2)(2a^3)^{-4}$</p> <p>A) $\frac{a^{14}}{-4}$ B) $\frac{1}{-4a^{10}}$ C) $-4a^{10}$ D) $-64a^{14}$</p>	<p>12. Simplify $\frac{28x^5}{14x^{-4}}$</p> <p>A) $\frac{2}{x^9}$ B) $2x$ C) $2x^9$ D) $\frac{2}{x}$</p>

<p>13. Simplify $(-7x^4y^2)(-2x^3y)$</p> <p>A) $14x^7y^2$ B) $-7x^7y^3$ C) $14x^7y^2$ D) $14x^{12}y^2$</p>	<p>14. Simplify $(4m^{-4}n^3)^2$</p> <p>A) $\frac{16m^8}{n^6}$ B) $-\frac{8m^8}{n^6}$ C) $\frac{m^8n^6}{16}$ D) $\frac{m^8}{16n^6}$</p>	<p>15. Simplify: $\frac{(4a^{-1}b^{-4})^{-3}}{(-8a^4b^{-2})^{-2}}$</p> <p>$a^{11}b^8$</p>	
<p>16. Simplify $(2p^{-3})^5$</p> <p>$\frac{32}{15}p$</p>	<p>17. Simplify $(-2c^{-4}d^{-1})(5c^2d^{-3})$</p> <p>A) $\frac{c^2}{-10d^4}$ B) $-\frac{10d^3}{c^8}$ C) $\frac{-10}{c^2d^4}$ D) $-\frac{10d^4}{c^2}$</p>	<p>18. Simplify: $\frac{-9b^{-5}}{(-3b^{-1} \cdot b^{-4})^3}$</p> <p>$\frac{b^{10}}{3}$</p>	
<p>19. Simplify: $(-7x^3y^4)^2(x^2y^5)$</p> <p>$49x^8y^{13}$</p>	<p>20. Simplify: $\frac{5a^7}{10a^3}$</p> <p>A) $2a^4$ B) $\frac{1}{2a^4}$ C) $\frac{a^4}{2}$ D) $\frac{a^4}{5}$</p>	<p>21. Simplify $\frac{n^5}{(-2n^4)^3}$</p> <p>A) $\frac{1}{-6n^7}$ B) $\frac{1}{-8n^7}$ C) $-6n^2$ D) $-8n^2$</p>	
<p>22. Simplify $(-8a^5b^7)^0$</p> <p>A) 0 B) 1 C) $-8a^5b^7$ D) $\frac{1}{-8a^5b^7}$</p>			