Name: _____ Period: _____ Date: _____

Division Properties of Exponents Bell Work

Simplify the following expression

1. $\frac{x^{10}}{x^6}$

2. $\frac{a^3}{a^{10}}$

3. $\frac{b^4}{-(b^2)^2}$

4. $\frac{3a^2}{-a^2}$

5. $\frac{2a^2}{(2a)^3}$

6. $\frac{(4b)^3}{(4b^3)^2}$

Evaluate the following using properties of power.

7. $\frac{3b(2a)^2}{12ab^2} = \frac{12a^2b}{12ab^2}$

8. $\frac{5x^2(3y)^2}{5xy^2}$

9. $\left(\frac{2a}{3b}\right)^2 \frac{12b^3}{8a^2}$

10. $\left(\frac{2d}{5c}\right)^2 \cdot (5c)$

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Division Properties of Exponents Bell Work

Answer:

Simplify the following expression

1. $\frac{x^{10}}{x^6} = x^4$
2. $\frac{a^3}{a^{10}} = \frac{1}{a^7}$
3. $\frac{b^4}{-(b^2)^2} = \frac{b^4}{-b^4} = -1$
4. $\frac{3a^2}{-a^2} = -3$
5. $\frac{2a^2}{(2a)^3} = \frac{2a^2}{2^3a^3} = \frac{1}{2^2a} = \frac{1}{4a}$
6. $\frac{(4b)^3}{(4b^3)^2} = \frac{4^3b^3}{4^2b^6} = \frac{4}{b^3}$

Evaluate the following using properties of power.

7. $\frac{3b(2a)^2}{12ab^2} = \frac{12a^2b}{12ab^2} = \frac{a}{b}$
8. $\frac{5x^2(3y)^2}{5xy^2} = \frac{45x^2y^2}{5xy^2} = 9x$
9. $\left(\frac{2a}{3b}\right)^2 \cdot \frac{12b^3}{8a^2} = \frac{4a^2}{9b^2} \cdot \frac{12b^3}{8a^2} = \frac{4b}{6} = \frac{2b}{3}$
10. $\left(\frac{2d}{5c}\right)^2 \cdot (5c) = \left(\frac{4d^2}{25c}\right)(5c) = \frac{20cd^2}{25c} = \frac{4d^2}{5}$