Name: ----------

Date: ---------- Score: ----------

MATH MONKS

Properties of Exponents Worksheet

Simplify

1 $(a^3)^3 \cdot 2a^{-1}$

2 $(a^4)^{-3} \cdot 2a^4$

3 $\frac{x^3y}{xy^5} \cdot \frac{x^2y^9}{x^8}$

4 $\left(\frac{8m^5n^7}{2mn^5}\right)^3$

5 $\frac{3^{-2}s^5(s^{-1})^{-3}}{s(s^2)^{-4}}$

6 $\frac{3x^3y^{-1}z^{-1}}{x^4y^0z^0}$

7 $\frac{x^8}{2y} \cdot \frac{5y^2}{x^3}$

8 $\frac{2x^2y^4 \cdot 4x^2y^4 \cdot 3x}{3x^{-3}y^2}$

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Properties of Exponents Worksheet

Answers

1 $(a^3)^3 \cdot 2a^{-1}$

$2a^8$

2 $(a^4)^{-3} \cdot 2a^4$

$\frac{2}{a^8}$

3 $\frac{x^3y}{xy^5} \cdot \frac{x^2y^9}{x^8}$

$\frac{y^5}{x^4}$

4 $\left(\frac{8m^5n^7}{2mn^5}\right)^3$

$64m^{12}n^6$

5 $\frac{3^{-2}s^5(s^{-1})^{-3}}{s(s^2)^{-4}}$

$\frac{s^{15}}{9}$

6 $\frac{3x^3y^{-1}z^{-1}}{x^4y^0z^0}$

$\frac{3x^7}{yz}$

7 $\frac{x^8}{2y} \cdot \frac{5y^2}{x^3}$

$\frac{5x^5y}{2}$

8 $\frac{2x^2y^4 \cdot 4x^2y^4 \cdot 3x}{3x^{-3}y^2}$

$8x^6y^6$