Name: _____

Date: _____ Score: _____

MATH MONKS

Multiplying and Dividing Rational Expressions

Simplify each expression

1. $\frac{3x^2}{2y} \cdot \frac{4y^3}{3x}$

_____

2. $\frac{(x+2)^2}{6x^2} \cdot \frac{3x}{x^2-4}$

_____

3. $\frac{7x^3}{z} \div \frac{5z^3}{3}$

_____

4. $\frac{x^2+8x+15}{x^2} \div (x+3)^2$

_____

5. $\frac{x^2-16}{x^2} \cdot \frac{x^2-4x}{x^2-x-12}$

_____

6. $\frac{16a^7}{3b^5} \div \frac{8a^3}{6b}$

_____

7. $\frac{6x+18}{x^2+5x+4} \cdot \frac{x^2-x-2}{x^2+4x+3}$

_____

8. $\frac{8y^3-27}{64y^3-1} \div \frac{4y^2-9}{16y^2+4y+1}$

_____

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MATH MONKS

Multiplying and Dividing Rational Expressions

Answers

1 $\frac{3x^2}{2y} \cdot \frac{4y^3}{3x}$

$2xy^2$

2 $\frac{(x+2)^2}{6x^2} \cdot \frac{3x}{x^2-4}$

$\frac{x+2}{2x(x-2)}$

3 $\frac{7x^3}{z} \div \frac{5z^3}{3}$

$\frac{21x^3}{5z^4}$

4 $\frac{x^2+8x+15}{x^2} \div (x+3)^2$

$\frac{x+5}{x^2(x+3)}$

5 $\frac{x^2-16}{x^2} \cdot \frac{x^2-4x}{x^2-x-12}$

$\frac{x^2-16}{x(x+3)}$

6 $\frac{16a^7}{3b^5} \div \frac{8a^3}{6b}$

$\frac{4a^4}{b^4}$

7 $\frac{6x+18}{x^2+5x+4} \cdot \frac{x^2-x-2}{x^2+4x+3}$

$\frac{6(x-2)}{(x+1)(x+4)}$

8 $\frac{8y^3-27}{64y^3-1} \div \frac{4y^2-9}{16y^2+4y+1}$

$\frac{4y^2+6y+9}{(4y-1)(2y+3)}$