Practice 10.3

Name(s)_____

Use the product rule to multiply. Assume all variables represent positive real numbers.

1) $\sqrt{\frac{x}{3}} \cdot \sqrt{\frac{y}{2}}$

Use the quotient rule to divide and simplify.

2) $\sqrt{\frac{32x^2y}{25}}$

3) $\frac{\sqrt{54x^{11}}}{\sqrt{6x}}$

Simplify the radical expression. Assume that all variables represent positive real numbers.

4) $\sqrt[3]{54}$

5) $\sqrt[3]{p^{26}}$

6) $\sqrt[3]{-27a^{11}b^{13}}$

7) $\dfrac{\sqrt[3]{135a^4b^6}}{\sqrt[3]{5a}}$

8) $\dfrac{\sqrt{56x^5y^6}}{\sqrt{2y^4}}$

Answers

1) $\sqrt{\frac{xy}{6}}$

2) $\frac{4x\sqrt{2y}}{5}$

3) $3x^5$

4) $3\sqrt[3]{2}$

5) $p^8\sqrt[3]{p^2}$

6) $-3a^3b^4\sqrt[3]{a^2b}$

7) $\sqrt[3]{27a^3b^6} = 3ab^2$

8) $\sqrt{28x^5y^2} = 2x^2y\sqrt{7x}$