

Algebra Review to Accompany Chapter 5

Problem 1

Simplify the expressions.

1. $\sqrt{y^8}$
2. $\sqrt{x^5y^4}$
3. $\sqrt{49w^9}$
4. $\sqrt{48u^{10}v^{12}y^5}$
5. $\sqrt{6s^2t^3v^5}\sqrt{6st^5v^3}$
6. $\sqrt{8m}\sqrt{2m^3}$

Problem 2

Simplify the expressions.

1. $3(3^{x/2})^2$
2. $7(w^{1/2})(2w^{1/3})$
3. $\sqrt{e^{2x}}$
4. $e^{kt}e^3e$
5. $(3x\sqrt{x^3})^2$
6. $\frac{a^{n+1}3^{n+1}}{a^n3^n}$

Problem 3

Solve for x

1. $\frac{10x^5}{x^2} = 2$
2. $\sqrt{4x^3} = 5$
3. $5x^{-2} = 500$
4. $\frac{5x^3}{x^5} = 125$
5. $2(x + 2)^3 = 100$

Problem 4

True or False

1. $t^3t^4 = t^{12}$
2. $5u^2 + 5u^3 = 10u^5$
3. $5z^{-4} = \frac{1}{5z^4}$
4. $(u + v)^{-1} = \frac{1}{u+v}$

Problem 5

Solve for the indicated variable.

1. $|3x - 2| = 10$, for x .
2. $\frac{x^2 - 5mx + 4m^2}{x - m} = 0$, for x .
3. $y'y^2 + 2xyy' = 4y$, for y' .
4. $\frac{At - B}{C - B(1 - 2t)} = 3$, for t .