Review Exercise Set 16

Exercise 1: Write in exponential form using positive rational exponents.

$$\sqrt[3]{(xy)^2} =$$

Exercise 2: Write in exponential form using positive rational exponents.

$$-\sqrt[5]{a^3b^2} =$$

Exercise 3: Write in radical form and then simplify.

$$-25^{3/2} =$$

Exercise 4: Write in radical form.

$$(2x+y)^{3/5} =$$

Exercise 5: Evaluate.

$$\left(\frac{1}{8}\right)^{-1/3} =$$

Exercise 6: Simplify the expression and write the answer without negative exponents.

$$a^{1/2}\left(5a^{3/2} - 2a^2\right) =$$

Review Exercise Set 16 Answer Key

Exercise 1: Write in exponential form using positive rational exponents.

$$\sqrt[3]{(xy)^2} = (xy)^{2/3}$$

Exercise 2: Write in exponential form using positive rational exponents.

$$-\sqrt[5]{a^3b^2} = -\left(a^3b^2\right)^{1/5} = -a^{3/5}b^{2/5}$$

Exercise 3: Write in radical form and then simplify.

$$\begin{aligned} -25^{3/2} &= -\left(25^{1/2}\right)^3 \\ &= -\left(\sqrt{25}\right)^3 \\ &= -(5)^3 \\ &= -125 \end{aligned}$$

Exercise 4: Write in radical form.

$$(2x+y)^{3/5} = \sqrt[5]{(2x+y)^3}$$

Exercise 5: Evaluate.

$$\begin{aligned} \left(\frac{1}{8}\right)^{-1/3} &= \left(\frac{8}{1}\right)^{1/3} \\ &= (8)^{1/3} \\ &= \sqrt[3]{8} \\ &= \sqrt[3]{2^3} \\ &= 2 \end{aligned}$$

Exercise 6: Simplify the expression and write the answer without negative exponents.

$$\begin{aligned} a^{1/2}\left(5a^{3/2}-2a^{2}\right) &= a^{1/2}\left(5a^{3/2}\right)-a^{1/2}\left(2a^{2}\right) \\ &= 5a^{3/2+1/2}-2a^{2+1/2} \\ &= 5a^{3/2+1/2}-2a^{4/2+1/2} \\ &= 5a^{4/2}-2a^{5/2} \\ &= 5a^{2}-2a^{5/2} \end{aligned}$$