

Key

Write each expression in radical form.

29. $x^{\frac{4}{3}}$

$$\sqrt[3]{x^4}$$

30. $(2y)^{\frac{1}{3}}$

$$\sqrt[3]{(2y)^1}$$

32. $b^{\frac{1}{5}}$

$$\sqrt[5]{b}$$

33. $z^{\frac{2}{3}}$

$$\sqrt[3]{z^2}$$

34. $(ab)^{\frac{1}{4}}$

$$\sqrt[4]{(ab)^1}$$

36. $t^{-\frac{2}{7}}$

$$\frac{1}{t^{2/7}} = \frac{1}{\sqrt[7]{t^2}}$$

Write each expression in exponential form.

38. $\sqrt{x^3}$

$$x^{3/2}$$

39. $\sqrt[3]{m}$

$$m^{1/3}$$

40. $\sqrt{5y}$

$$(5y)^{1/2}$$

42. $(\sqrt[4]{b})^3$

$$b^{3/4}$$

44. $\sqrt{(6a)^4}$

$$\begin{aligned} &\cancel{(6a)^4}^{1/2} \\ &= (6a)^2 \end{aligned}$$

45. $\sqrt[5]{n^4}$

$$n^{4/5}$$

46. $\sqrt[4]{(5ab)^3}$

$$(5ab)^{3/4}$$

Simplify.

19) $(2x^4y^{-3})^{-1}$

$$2^{-1}x^{-4}y^3$$

$$= \boxed{\frac{y^3}{2x^4}}$$

23) $\frac{3n^4}{3n^3} = \boxed{n}$

27) $\frac{4x^0y^{-2}z^3}{4x}$

$$= \frac{4x^0z^3}{4xy^2}$$

$$= \frac{4z^3}{4xy^2}$$

$$= \boxed{\frac{z^3}{xy^2}}$$

20) $(3m)^{-2}$

$$= \boxed{\frac{1}{9m^2}}$$

24) $\frac{m^4}{2m^4}$

$$= \boxed{\frac{1}{2}}$$

28) $\frac{2h^3j^{-3}k^4}{3jk}$

$$= \boxed{\frac{2h^3k^4}{3j^4k^3}}$$

SLOT Practice - Simplify

① $\frac{p^2 - 3p - 54}{p - 9} = \frac{(p-9)(p+6)}{p-9} = \boxed{p+6}$

② $\frac{3(x-6)}{(x-6)(x+1)} + \frac{3x(x+1)}{(x-6)(x+1)}$
 $= \frac{3x-18}{(x-6)(x+1)} + \frac{3x^2+3x}{(x-6)(x+1)}$
 $= \boxed{\frac{3x^2+6x-18}{(x-6)(x+1)}}$