

Date: Dec 11
Bell ringer

$$\textcircled{1} 4^{2x} = 32^{x+1} \quad \boxed{x = -5}$$

$$\textcircled{2} (3^1 x^{-2} y^3 z^{-3})^{-2} = \frac{x^4 z^6}{9y^6}$$
$$= 3^{-2 \cdot 1} x^{4} y^{-6} z^6$$
$$\frac{x^4 z^6}{3^2 y^6} = \frac{x^4 z^6}{9y^6}$$

$$\textcircled{1} (2^2)^{2x} = (2^5)^{x+1}$$
$$2^{4x} = 2^{5x+5}$$
$$4x = 5x + 5$$
$$-x = 5$$
$$x = -5$$

Assignment

Page 452-453(12-28e, 40)

Page455(1-6all,18-24all)

PageR7(1-8all,19-22all)

p. 410 - 411

$$84) \quad 6^{8-x} = \frac{1}{216}$$

$$6^{8-x} = \frac{1}{6^3}$$

$$8-x = -3$$

$$\begin{array}{c} 216 \\ \wedge \\ 6 \quad 36 \\ \quad \wedge \\ \quad 6 \quad 6 \end{array}$$

$$\begin{array}{r} 8-x = -3 \\ -8 \quad -8 \end{array}$$

$$6 = 6$$

$$\begin{aligned} -x &= -11 \\ x &= 11 \end{aligned}$$

80)

$$81^{2x-3} = 9^{x+3}$$

$$(9^2)^{2x-3} = 9^{x+3}$$

$$9^{4x-6} = 9^{x+3}$$

$$4x - 6 = x + 3$$

$$\begin{array}{r} -x + 6 \\ \hline \end{array} \quad \begin{array}{r} -x + 3 \\ \hline \end{array} \quad \begin{array}{r} +6 \\ \hline \end{array}$$

$$3x = 9$$

$$x = 3$$

$$48) \quad 27^x = 3$$

$$3^{3x} = 3$$

$$3x = \frac{1}{3}$$

$$x = \frac{1}{3}$$

$$27) \quad 4^{x-3} = 128$$

$$(2^2)^{x-3} = 2^7$$

$$2^{2x-6} = 2^7$$

$$2x-6=7$$

$$2x=13$$

$$x = \frac{13}{2}$$

38)

$$4^{4x-1} = 32$$

$$(2^2)^{4x-1} = 2^5$$

$$2^{8x-2} = 2^5$$

$$8x-2 = 5$$

$$8x = 7$$

$$x = 7/8$$

17)

$$81^x = \frac{1}{3}$$

$$3^{4x} = 3^{-1}$$

$$4x = -1$$

$$x = -\frac{1}{4}$$

