

Mini Assessment

Solve the equation.

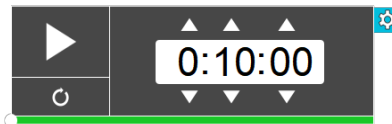
6.5 Solve Exponential Equations DAY THREE

1. $6^{x+1} = 6^5$

2. $64^x = 8^{3x-6}$

3. $2^{x+2} = \frac{1}{32}$

4. Use a graphing calculator

to solve $\left(\frac{1}{2}\right)^{2x+3} = 4$.

Dec 23-10:23 AM

Solve the equation.

1. $6^{x+1} = 6^5$

$$\begin{array}{r} x+1 = 5 \\ -1 \quad -1 \\ \hline x = 4 \end{array}$$

6^{4+1}

7776

6^5

7776

$$2. \quad 64^x = 8^{3x-6}$$

$$\underline{8}^{2 \cdot x} = \underline{8}^{3x-6}$$

$$2x = 3x - 6$$

$$\underline{-3x} \quad \underline{-3x}$$

$$\underline{-x} = \underline{-6}$$

$$\underline{-1} \quad \underline{-1}$$

$$\boxed{x = 6}$$

$$64^6$$

$$6.871947674E10$$

$$8^{3(6)-6}$$

$$6.871947674E10$$

$$3. \quad 2^{x+2} = \frac{1}{32}$$

$$2^{x+2} = 32^{-1}$$

$$\underline{2}^{x+2} = \underline{2}^{5 \cdot -1}$$

$$x+2 = -5$$

$$\underline{-2} \quad \underline{-2}$$

$$\boxed{x = -7}$$

$$2^{-7+2}$$

$$1/32$$

$$.03125$$

$$.03125$$

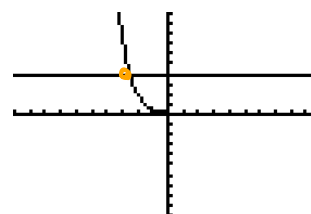
4. Use a graphing calculator

to solve $\left(\frac{1}{2}\right)^{2x+3} = 4.$

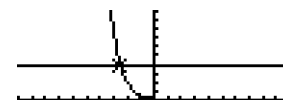
$$y_1 = \left(\frac{1}{2}\right)^{2x+3}$$

$$y_2 = 4$$

$$x = -2.5$$



Calculator menu:
 1: value
 2: zero
 3: minimum
 4: maximum
 5: intersect
 6: dy/dx
 7: ∫f(x)dx



Intersection
 X=-2.5 | Y=4 → (-2.5, 4)

6.5 DAY THREE Assignment:

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