

4.4: Solve Exponential Equations with binomial Exponents

• Ex 1) Solve: $7^{x+3} = 41$

$$\log_7 41 = x+3$$
$$1.9i = x+3$$
$$-3$$
$$x = -1.09$$

• Ex 2) Solve: $12 = 6^{3x-7}$

$$10 = 6^{3x-7}$$
$$\log_6 10 = 3x-7$$
$$1.2i = 3x-7$$
$$+7$$
$$\frac{8.2i}{3} = \frac{3x}{3}$$
$$x = 2.76$$

• Ex 3) Solve: $20^{6x-7} = 2^{x+4}$

$y_1 =$ $y_2 =$

2nd → trace → 5 → Enter 3 X

x = answer

$$x = 1.37$$

• Ex 4) Solve: $6^{x-2} = 31^x$

$$x = -2.18$$