

10/30 Notes

A2

Solving w/ a common base

- use your knowledge of exponents to get the same base on each side of the equal sign
- just solve exponents

ex

$$25^{x+3} = 125^{x-2}$$

$$25 = 5^2, 125 = 5^3$$

$$(5^2)^{x+3} = (5^3)^{x-2} \text{ both have base of 5}$$

$$2(x+3) = 3(x-2) \text{ just look at exp.}$$

$$2x+6 = 3x-6$$

$$\boxed{12 = x}$$

check

$$25^{12+3} = 125^{12-2}$$

$$25^{15} = 125^{10} \checkmark$$