

## EOC Review #7

### Logs & Exponentials

- exponential equations → giant cheat sheet

$$4^{x+3} = 8^{x+7}$$

- log ↔ exponential

$$\log_8 x = 7$$

$$2^x = 32$$

- evaluate logs

$$\log_7 7^2 =$$

$$\log_8 4 =$$

- e & natural log (ln) are opposites

$$e^{\ln 8} =$$

$$\ln e^{7x} =$$

- solving exponentials → not on cheat sheet

$$8^x = 5$$

$$\log 8^x = \log 5$$

$$x \log 8 = \log 5$$

$$x = \frac{\log 5}{\log 8} = \textcircled{.7740}$$

$$3^{x+2} = 15$$

$$(x+2) \log 3 = \log 15$$

$$x+2 = 2.465$$

$$\textcircled{x = 0.465}$$

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when in doubt, plug all answers into equation & find one that works.