

## Quiz 9

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Solve the equation

$$\frac{50}{1 + 5e^{0.2t}} = 20.$$

**Solution:** The equation is equivalent to  $20 + 100e^{0.2t} = 50$ , which is equivalent to  $e^{0.2t} = 0.3$ . Take the natural log of both sides to get  $\ln e^{0.2t} = \ln 0.3 \approx -1.2039$ . Since  $\ln e^{0.2t} = 0.2t$ , it follows that  $t \approx -6.0198$ .