

- Change to exponential form

$$11a) \log x = 50 \quad ; \quad \underline{10^{50} = x}$$

$$11b) \log x = 20t \quad ; \quad \underline{10^{20t} = x}$$

$$11c) \ln x = 0.1 \quad ; \quad \underline{e^{0.1} = x}$$

$$11d) \ln w = 4 + 3x \quad ; \quad \underline{e^{4+3x} = w}$$

$$11e) \ln (z-2) = \frac{1}{6} \quad ; \quad \underline{e^{\frac{1}{6}} = z-2}$$

- Solve the equation

$$19) \log_5 (x-2) = \log_5 (3x+7)$$

$$x-2 = 3x+7$$

$$-9 = 2x$$

$$\boxed{x = -\frac{9}{2}}$$

$$21) \log x^2 = \log (-3x-2)$$

$$x^2 = -3x-2$$

$$0 = x^2 + 3x + 2$$

$$\underline{x = -1; x = -2}$$

$$25) \log_9 x = \frac{3}{2}$$

$$x = 9^{\frac{3}{2}}$$

$$x = 3^3$$

$$\underline{x = 27}$$