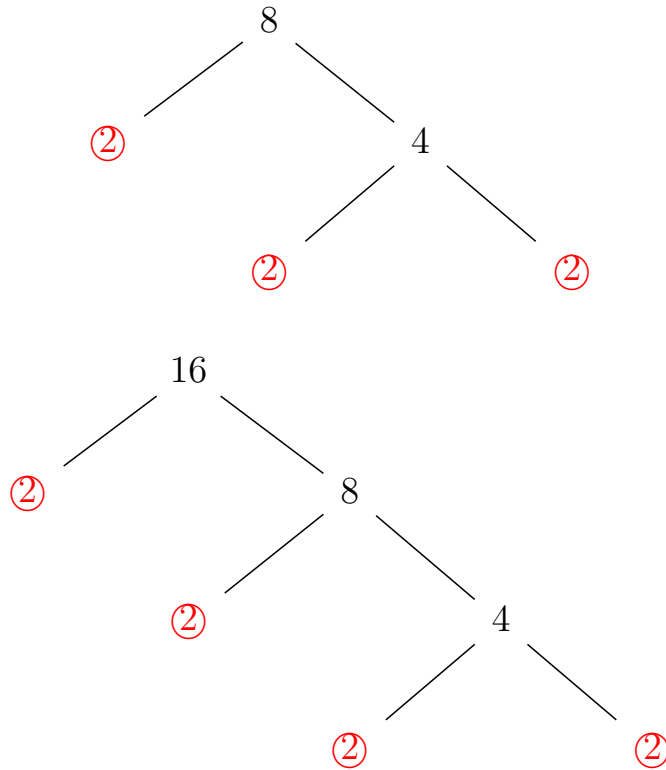


Quiz 1 Solutions

Note: This is the quiz I would have given Friday in class. It would have been a 10-15 minutes, no notes exam. Make sure that you understand this material to the level that you could have done this without your notes in that time.

1. Simplify: $2\sqrt[3]{8} + 9\sqrt{4} - 12\sqrt[4]{16}$. (Yes, this CAN be simplified.) (1 point)



So then $\sqrt[3]{8} = 2$, $\sqrt{4} = 2$, and $\sqrt[4]{16} = 2$. This gives that

$$2\sqrt[3]{8} + 9\sqrt{4} - 12\sqrt[4]{16} = 2 * 2 + 9 * 2 - 12 * 2 \quad (1)$$

$$= 4 + 18 - 24 \quad (2)$$

$$= \boxed{-2} \quad (3)$$

2. Find the distance and midpoint between the two points: $(3, -7)$ and $(-1, -4)$. (2 points)

Call $x_1 = 3$, $y_1 = -7$, $x_2 = -1$, and $y_2 = -4$. Then

$$d = \sqrt{(-1 - 3)^2 + (-4 - (-7))^2}$$

$$d = \sqrt{(-4)^2 + 3^2}$$

$$d = \sqrt{16 + 9}$$

$$d = \sqrt{25}$$

$$\boxed{d = 5}$$

and

$$\begin{aligned}(x, y) &= \left(\frac{3 + (-1)}{2}, \frac{-7 + (-4)}{2} \right) \\ &= \left(\frac{2}{2}, \frac{-11}{2} \right) \\ &= \boxed{\left(1, -\frac{11}{2} \right)}\end{aligned}$$

3. Solve the equation for T : (2 points)

$$K = P - \frac{3T}{X}$$

$$K - P = -\frac{3T}{X}$$

$$X(K - P) = -3T$$

$$\frac{X(K - P)}{-3} = T$$

$$\boxed{\frac{-X(K - P)}{3} = T}$$