

Group Work section 2.6

6-21-12

Group Members _____

1. Convert today's high temperature, $83^{\circ}F$, to Celsius.

$$C = \frac{85}{3} \approx 28.3^{\circ}$$

2. Find the maximum number of fish that can live in a cylindrical tank whose diameter is 8 meters and whose height is 3 meters, if each fish needs 2 cubic meters of water.

$$\text{Volume of Tank} = \pi r^2 h = \pi \left(\frac{8}{2}\right)^2 (3) = 48\pi$$

$$\# \text{ of fish: } \frac{48\pi}{2} = 24\pi \approx 75.398 \quad 75 \text{ fish.}$$

- ~~3.~~ Jon is trying to fix his turn table. On a particular circuit, a power supply produces 12 volts. The electric motor in the circuit presents a 3 ohm resistance. How much current is in the circuit?

SKIP

4. Emily is designing boxes for her company. The boxes are 6 inches long, by 7 inches wide, by 8 inches tall. The material for the sides and bottom costs 10 cents per square inch and the material for the top costs 20 cents per square inch. Also it costs 5 dollars per box to manufacture. How much will it cost for Emily's company to produce 6 boxes?

$$6 (5 + .10(6 \cdot 7 + 2(6 \cdot 8) + 2(7 \cdot 8))) + .20(6 \cdot 7)$$

$$= \$230.40$$

5. Phoebe travelled to her brother's house 234 miles away. It took her 4 hours. What was Phoebe's average speed?

58.5 mph