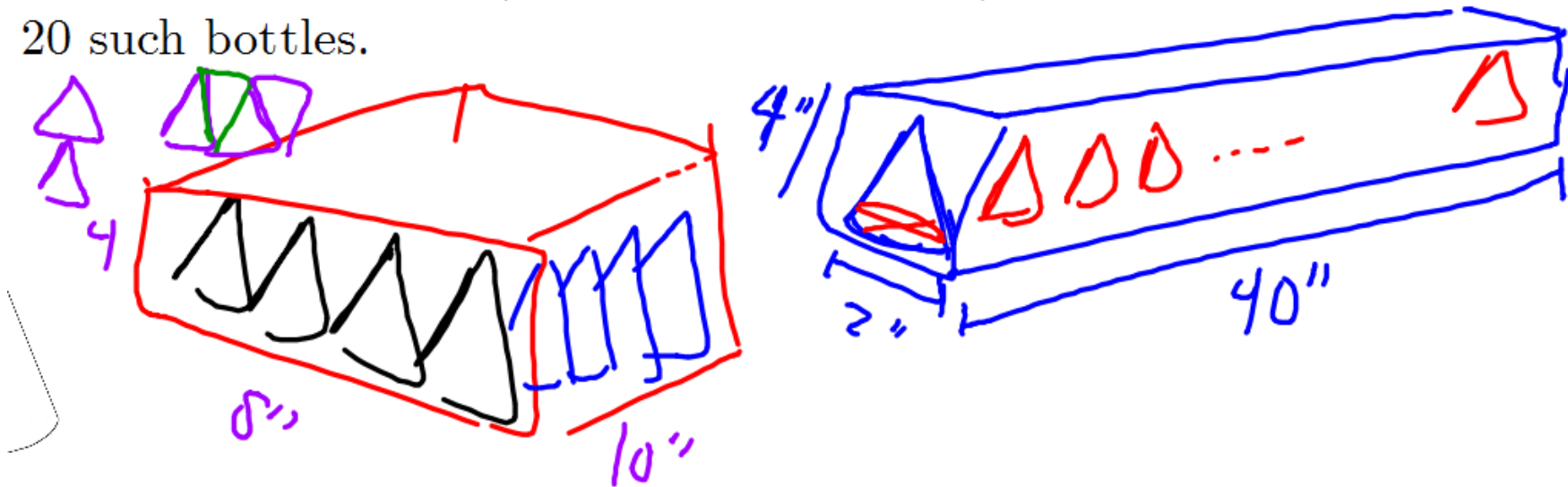


Good afternoon: warm up in notebooks

Cone-shaped bottles of nail polish are being put in a box for shipping. Each has a base diameter of 2 inches and is 4 inches tall.

Find the dimensions (length, width, height) of a suitable box that can hold 20 such bottles.



Reminders:

- you should reassess anything <96 in Powerschool! No excuse not to!

How much would a gold idol weigh? Could a grown person pick it up?



Record a
guess.



Important facts:

- Density of gold: 19.32 g/cm^3 (at room temperature at sea level)

- Density of sand: varies, approximately 2.5 g/cm^3

- Statue dimensions: about 7.5" tall, 4.25" wide, 5" deep

- 1 inch = 2.54 cm 1 lb \approx 0.45kg

$$1 \text{ kg} = 1000 \text{ g}$$

- A grown man can lift approximately 30-40 pounds in one hand (about 13.6 - 18.1kg)



$$V = l \cdot w \cdot h$$

$$V = 2610.48 \text{ cm}^3$$

$$\times 19.32 \text{ g/cm}^3$$

$$50457.81 \text{ g}$$

1000 g/kg

$$50.457 \text{ kg} \div 45 \text{ kg/lb}$$

$$D = \frac{m}{V}$$

$$\frac{19.32}{1} = \frac{m}{2610.48}$$

112 lb

$$\frac{50.45 \text{ kg}}{1 \text{ lb}} = 0.45 \text{ kg}$$

