Chapter 7 & 8 Unit Test – Geometry and Measurement

Name_____**Section**_____

Be sure to show all your work and circle your answer.

Perform the indicated operations and simplify:

1) 8 mi 346 ft 5 in
– 2 mi 900 ft 11 in

2) 5 gal – 7 pt

3) (2 hr 40 min 45 sec) × 5

4) (25 lb 2 oz) ÷ 6

5) 9363 L = ____ KL ____ L

Convert:

6) 5.6 ml = _____ dal

7) 7 gal = _____L

8) 42˚ F = _____ C

9) 68.04 g = _____ oz

10) $\frac{5\text{gal}}{\text{mi}} = \frac{\quad\text{gal}}{\text{km}}$

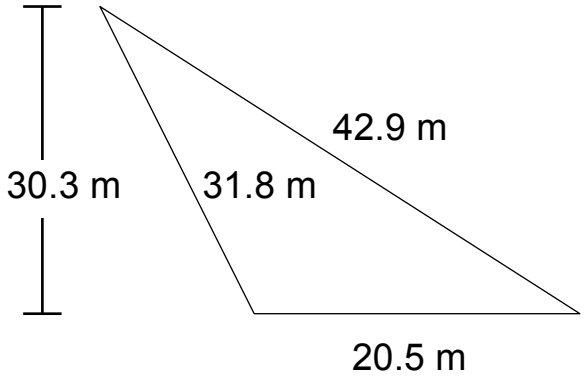
Solve the following

11) After being on the planet Tatoonie, R2D2 requires 1 gal 3 qt of robot oil to flush all the dust out of his system while C3PO requires 2 gal 3 qt to flush out his. How much robot oil must Luke buy to flush out his droids?

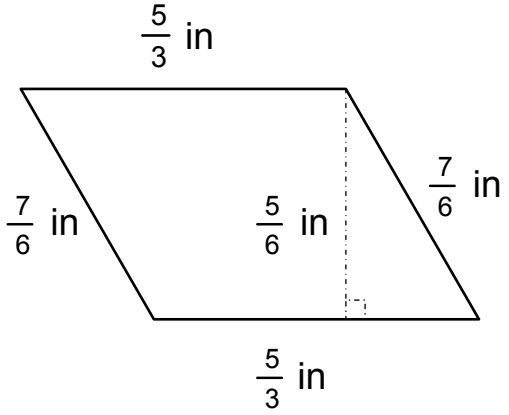
12) Juan has a strip of sheet metal that is 1.26 meter long. If he cuts off a piece that is 23.4 centimeters long, how much sheet metal does he have left?

Solve the following geometry problems. Use π ≈ 3.14:

13) Find the perimeter and area:

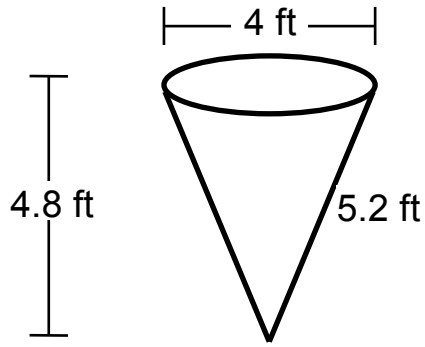


14) Find the perimeter and area:

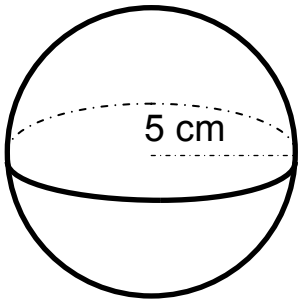


Solve the following geometry problems. Use π ≈ 3.14:

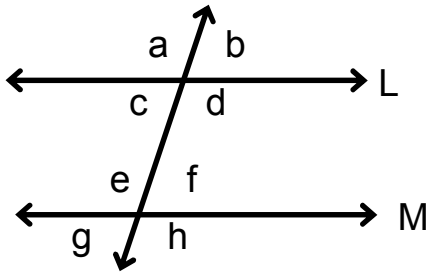
15) Find the volume:



16) Find the volume:



Use the diagram to answer #17 & #18. Assume L || M:



17a) ∠a and _____ are a pair of vertical angles.

17b) ∠f and _____ are a pair of alternate interior angles.

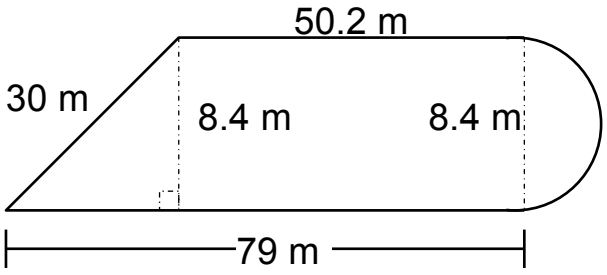
18) If ∠g = 63.4˚, find the measure of all the other angles. Write your answers in the diagram itself.

Find the complement and supplement of the following angle:

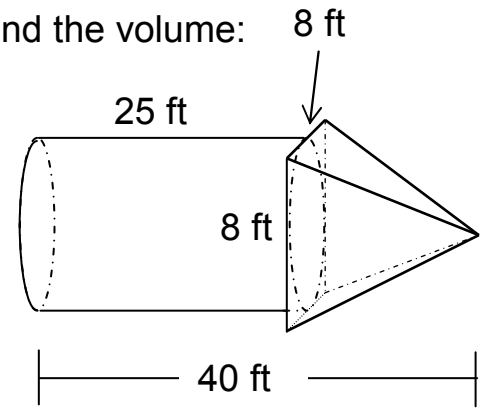
19) 62.56°

Solve the following geometry problems. Use $\pi \approx 3.14$:

20) Find the perimeter & area:



21) Find the volume:

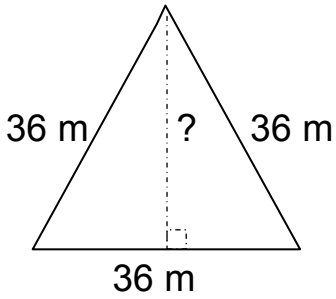


22) Given $\Delta ABC \sim \Delta DEF$, BC = 8.4 cm, EF = 12.6 cm, DF = 13.5 cm, AB = 6.8 cm, $m\angle D = 62.4^\circ$, and $m\angle F = 45.8^\circ$, find all the missing sides and angles.

Solve the following geometry problems. Use $\pi \approx 3.14$:

23) Find the volume of a rectangular solid that is 3.2 ft long, 7.8 ft wide and 2.6 ft high.

24) If the each side of an equilateral triangle is 36 meters, find the height (round to the nearest hundredth).



25) A fireman needs to get to the top of a burning 28 feet tall building. If he places the foot of the ladder 10 feet away from the base of the building, how long is the ladder? (Round to the nearest tenth if needed).

Answers:

1) 5 mi 4725 ft 6 in 2) 33 pt or 4 gal 1 pt or $4\frac{1}{8}$ gal 3) 13 hr 23 min 45 sec

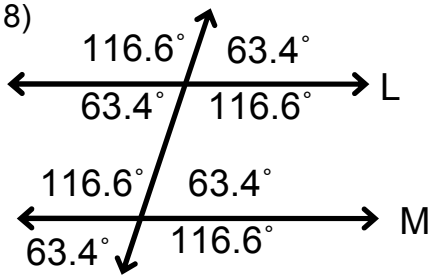
4) 4 lb 3 oz 5) 9 kL 363 L 6) 0.00056 dal 7) ≈ 26.495 L 8) $5\frac{5}{9}^\circ$ C

9) ≈ 2.4 oz 10) $\approx \frac{3.11\text{gal}}{\text{km}}$ 11) 4 gal 2 qt 12) 1.026 m or 102.6 cm

13) P = 95.2 m; A = 310.575 m^2 14) P = $5\frac{2}{3}$ in; A = $1\frac{7}{18}$ in^2

15) V = 6.4π ft^3 ≈ 20.096 ft^3 16) V = $\frac{500\pi}{3}$ cm^3 ≈ 523.$\overline{3}$ cm^3 17a) ∠ d 17b) ∠ c

18)



19) Comp. = 27.44°; Supp. = 117.44°

20) P = (159.2 + 4.2π) m ≈ 172.388 m; A = (542.6 + 8.82π) m^2 ≈ 570.3348 m^2

21) V = (400π + 320) ft^3 ≈ 1576 ft^3 22) AC = 9 cm, DE = 10.2 cm, m∠A = 62.4°,

m∠B = 71.8°, m∠C = 45.8°, m∠E = 71.8° 23) V = 64.896 ft^3 24) 31.18 m 25) ≈ 29.7 ft