UNIT 7 REVIEW
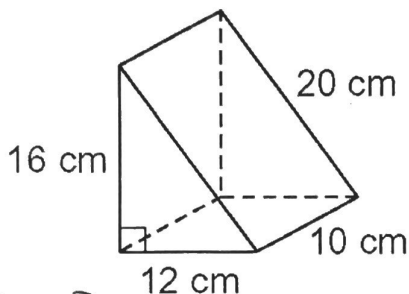
INSTRUCTIONS: Find a partner to complete the following Unit 7 review questions. After you've finished, have your partner sign the problem. You can only work each person once before finding another partner. ***Make sure to also check your work!***

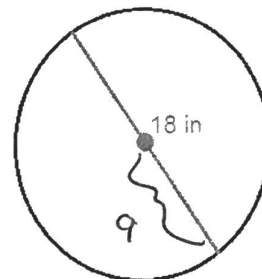---

1. Find the **volume** of the following triangular prism:

20 cm

16 cm

10 cm

12 cm

$$\left(\frac{16\,cm \times 12\,cm}{2}\right) \times 10\,cm =$$

960 cm3

Did you check your work? (y/n)
Partner signature: _____

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2. Find the area of the circle below:

18 in
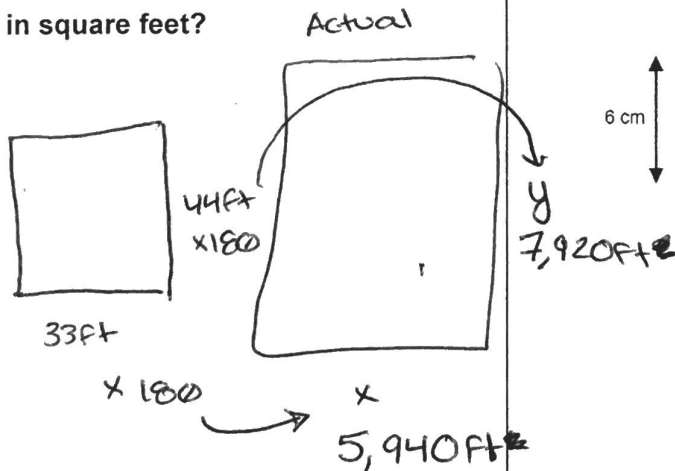
9

Area = 3.14 · 9in · 9in

Area = 254.34 in^2

Did you check your work? (y/n)
Partner signature: _____

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3. Rena is building a 1:180 scale model of a real castle. Her model has a rectangular base that is 33 feet wide and 44 feet long.
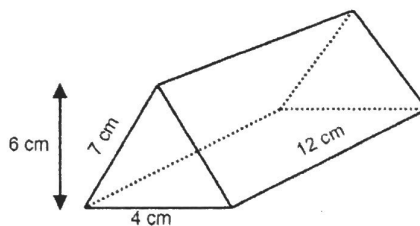**What is the area of the base of the actual castle in square feet?**

Actual

44ft × 180

33ft

× 180

y

7,920 ft²

× → x 5,940 ft²

Did you check your work? (y/n)
Partner signature: _____

Area of base: 7,920
× 5,940

47,044,800 ft²

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4. **Find the surface area of the following triangular prism:**

6 cm   7 cm   12 cm

4 cm

Two triangles:

$$\left(\frac{1}{2}(6cm)(4cm)\right) \times 2$$

24cm²

3 Rectangles:
① 7cm × 12cm = 84cm²
② 7cm × 12cm = 84cm²
③ 4cm × 12cm = 48cm²

Did you check your work? (y/n)
Partner signature: _____

240cm²

5. Find the area of the semicircle if the radius is 10 cm.
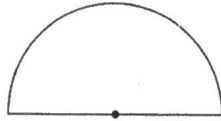
$$A = \frac{3.14(10cm)(10cm)}{2} = \boxed{157 \ cm^2}$$
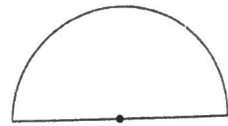
Divide by two b/c semicircle

Did you check your work? (y/n)
Partner signature: _____

6. Find the **perimeter** of the circle if the radius is 10 cm.

$$d = 2 \cdot r$$
$$d = 2 \cdot 10cm$$
$$20cm$$
$$C = 20cm \cdot 3.14 = 62.8cm$$
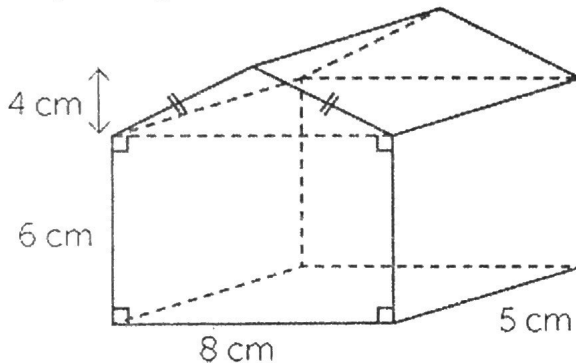$$\div 2 \ (semicircle)$$

add on the diameter! 31.4 cm
$+ 20 cm$
$\boxed{51.4 \ cm}$

Did you check your work? (y/n)
Partner signature: _____

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7. Find the **volume** of the following composite figure:

4 cm

6 cm

8 cm   5 cm

Rectangular prism:
$$(8cm)(5cm)(6cm) = \boxed{240 \ cm^3}$$

Triangular prism:
$$\frac{1}{2}(8cm)(4cm)(5cm) = \boxed{80cm^3}$$

Volume of Composite figure:

Did you check your work? (y/n) $\boxed{320 cm^3}$
Partner signature: _____

8.

The above map show a section of downtown Honolulu where the scale factor is 1cm: ⅕ of a mile. If the distance on paper between the State Art Museum and the Capitol Building is 3.5 cms, how far is the actual distance?

$$1cm = \frac{1}{5} \ of \ a \ mile$$

$$3.5cm = ?$$

$$\frac{1cm}{3.5cm} = \frac{0.20 \ mile}{x}$$

$$\boxed{x = 0.7 \ of \ a \ mile \ or \ \frac{7}{10}}$$

Did you check your work? (y/n)
Partner signature: _____

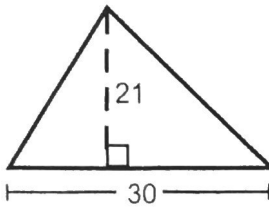**9.** What is the formula to find the **area of a circle?** $\boxed{A = \pi r^2}$

Partner signature: _____

10. What is the formula to find **volume?**

$$\boxed{B \times height}$$
(area of the base)

Partner signature: _____
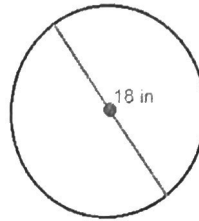
11. Find the area of the following triangle:

21

30

$\frac{1}{2}(30)(21) =$ (315)

Did you check your work? (y/n)
Partner signature: _____

12. Find the *circumference* of the following circle:

18 in

$C = d\pi$

$C = (18 in)(3.14)$

(C = 56.52 in)

Did you check your work? (y/n)
Partner signature: _____

13. In your own words, please describe surface area and volume. What are the differences between the two? When would it be important to find surface area? When would it be important to find the volume of an object?

Surface → measure of
area
the total area of the
surface the object
takes up.

Importance: Wrapping
an object, painting a
room, etc.

Volume → Measure
of the space an
object takes up!

Importance! Filling a
container, packing items
to be sent out for shipment

Partner signature: _____

14. Create your own problem for your partner to solve. Use the space below to solve your partner's problem.

Solve this problem please! Come see
me on 2/6/2020 for the answer.

radius, diameter

Find the area and ~~circumference~~ of
the following circle:

12cm

Partner signature: _____

Area = _____
diameter = _____
radius = _____