

Chapter 1 - MEASUREMENT EXAM REVIEW

NAME: \_\_\_\_\_

Multiple Choice (7 Points) :

Circle the choice that best completes the statement or answers the question.

1. Convert 3180 m to the nearest yard.

$$3180 \text{ m} \cdot \frac{1 \text{ yd}}{0.9144 \text{ m}} = 3478 \text{ m}$$

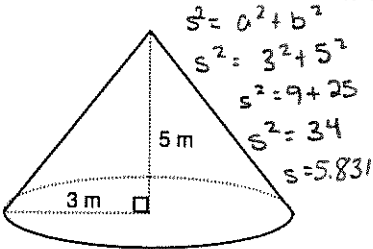
- a. 2862 yd.    **b.** 3478 yd.    c. 3445 yd.    d. 3533 yd.

2. A parade route is 2 miles long. If the average lawn chair is 32 inches wide, how many can fit along both sides of the parade route? (Assume there is no space in between chairs.)

- a. 8448    b. 3960    **c.** 7920    d. 330

$$2 \text{ mi} \cdot \frac{1760 \text{ yd}}{1 \text{ mi}} \cdot \frac{3 \text{ ft}}{1 \text{ yd}} \cdot \frac{12 \text{ in}}{1 \text{ ft}} = 126720$$

3. Determine the surface area of this right cone to the nearest square metre.



$$\begin{aligned} SA &= \pi r^2 + \pi r s \\ &= \pi (3)^2 + \pi (3)(\sqrt{34}) \\ &\approx 83 \text{ m}^2 \end{aligned}$$

$$126720 \div 32 = 3960$$

$$3960 \cdot 2 = 7920$$

- a. 55 m<sup>2</sup>    b. 74 m<sup>2</sup>    c. 75 m<sup>2</sup>    **d.** 83 m<sup>2</sup>

4. Which of the following best approximates 1 yd.?

- a. The width of your shortest finger  
 b. The length of a screwdriver  
**c.** The height of the kitchen counter above the floor  
 d. The length of a football field

5. A sphere has a radius of 5.3 m. What is the surface area of the sphere to the nearest square metre?

$$SA = 4\pi r^2 = 4\pi (5.3)^2$$

- a. 624 m<sup>2</sup>    **b.** 353 m<sup>2</sup>    c. 312 m<sup>2</sup>    d. 265 m<sup>2</sup>

6. The Queen's Plate is a thoroughbred horse race for 3-year-old Canadian-bred horses. The race is  $1\frac{1}{4}$  mi. in length. What is this distance in kilometres?

$$1.25 \text{ mi} \cdot \frac{1.609 \text{ km}}{1 \text{ mi}}$$

- a.** 2.01 km    b. 1.70 km    c. 1.28 km    d. 0.78 km

7. A regular tetrahedron has edge length 20.0 m and a slant height of 17.3 m. Calculate the surface area of the tetrahedron to the nearest square metre.

- a. 173 m<sup>2</sup>    b. 519 m<sup>2</sup>    **c.** 692 m<sup>2</sup>    d. 1384 m<sup>2</sup>

$$SA = 4 \left( \frac{20 \cdot 17.3}{2} \right)$$

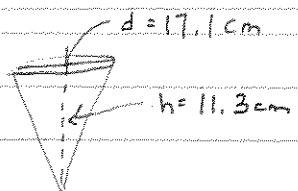


$$= 692 \text{ m}^2$$

# Chapter 1 - Exam Review

## Written response

1.



$V = ?$

$d = 17.1 \text{ cm}$   
 $r = 8.55 \text{ cm}$

$$V = \frac{1}{3} \pi r^2 h$$

$$= \frac{1}{3} \pi (8.55)^2 (11.3)$$

$$= 865.0462$$

$V = 865 \text{ cm}^3$

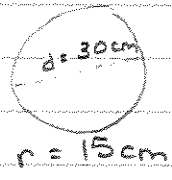
2.  $12\ 245 \text{ ft} \cdot \frac{1 \text{ yd}}{3 \text{ ft}} \cdot \frac{1 \text{ mi}}{1760 \text{ yd}} = \underline{2.319128788} \text{ mi}$

$0.319128788 \text{ mi} \cdot \frac{1760 \text{ yd}}{1 \text{ mi}} = \underline{561.66} \text{ yd}$

$0.6 \text{ yd} \cdot \frac{3 \text{ ft}}{1 \text{ yd}} = 2 \text{ ft}$

So... 2 mi 561 yd 2 ft

3.



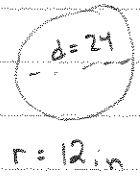
$V = \frac{4}{3} \pi r^3$

$= \frac{4}{3} \pi (15)^3$

$V = 14137.1669 \text{ cm}^3$

$V = 14137 \text{ cm}^3$

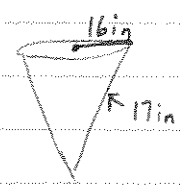
4.



$SA = 4 \pi r^2$

$= 4 \pi (12)^2$

$= 1809.5574 \text{ in}^2$



$SA = \pi r^2 + \pi r s$

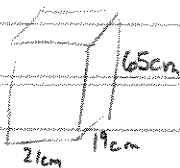
$= \pi (16)^2 + \pi (16)(17)$

$= 1658.7609 \text{ in}^2$



Bigger SA

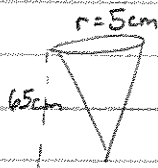
5.



$$V = lwh$$

$$= (65)(19)(21)$$

$$= 25935 \text{ cm}^3$$



$$V = \frac{1}{3} \pi r^2 h$$

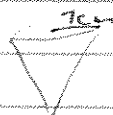
$$= \frac{1}{3} \pi (5)^2 (65)$$

$$= 1701.696021 \text{ cm}^3$$

$$25935 \text{ cm}^3 - 1701.696021 \text{ cm}^3 = 24233.304 \text{ cm}^3$$

$24233 \text{ cm}^3$  remains.

6.



$$V = \frac{1}{3} \pi r^2 h$$

$$615.8 = \frac{1}{3} \pi (7)^2 h$$

$$\frac{615.8}{\frac{1}{3} \pi (7)^2} = h$$

$$12 \text{ cm} = h$$

7.

$$SA = \pi r^2 + 2\pi r h + 2\pi r h$$

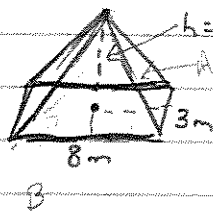
\* Did not include bottoms

$$= \pi (12)^2 + 2\pi (12)(8) + 2\pi (7)(8)$$

$$= 1407.4335 \text{ cm}^2$$

$$= 1407 \text{ cm}^2$$

8.



$$h = 12 \text{ m}$$

SA = Rectangle base + 2 triangles + 2 triangles

$$\text{Slant height} = h^2 = a^2 + b^2$$

$$h^2 = a^2 + b^2$$

$$h^2 = 4^2 + 12^2$$

$$= (1.5)^2 + (12)^2$$

$$h^2 = 16 + 144$$

$$h = \sqrt{(1.5)^2 + (12)^2}$$

$$h^2 = \sqrt{160}$$

$$= 12.0934 \text{ m}$$

$$h = 12.6491 \text{ m}$$

base

l.w

triangle A

Triangle B

$$SA = 8 \cdot 3 + 2(3 \cdot 12.6491) + 2(8 \cdot 12.0934)$$

$$SA = 24 + 37.9473 + 96.7472$$

$$= 158.6945 \text{ m}^2$$

$$SA = 159 \text{ m}^2$$