

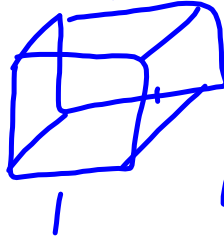
Review
for Test!

Test tomorrow

Wed. Nov 25/14

Review Questions

15 a) 4 cubes



①

Each side of
a cube = square

$$\begin{aligned} \text{Area square} &= b \times h \\ &\text{or} \\ &1 \times w \\ &1 \times 1 = 1 \text{ cm}^2 \end{aligned}$$

Each
side
= 1cm

$$\begin{aligned} &6 \text{ squares in a cube} \\ &1 \text{ cm}^2 \times 6 = 6 \text{ cm}^2 \end{aligned}$$

$$1 \text{ cub} = 6 \text{ cm}^2$$

$$\textcircled{2} 4 \text{ cubes} \times 6 \text{ cm}^2 = 24 \text{ cm}^2$$

Area of a cube

③ Overlap

Area of all 4
cubes

For each overlap I lose 2 sides

$$3 \times 2$$

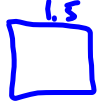
= 6 sides lost - 7 each side

$$\begin{aligned} \textcircled{4} \text{ Total area} &- \text{Overlap} \\ 24 \text{ cm}^2 &- 6 \text{ cm}^2 \\ &= 18 \text{ cm}^2 \end{aligned}$$

16a) Rectangular Prism

$$\underbrace{\text{Front+Back}}_{(0.7 \times 4.5) \times 2} \quad \underbrace{\text{Sides}}_{(3.5 \text{ cm} \times 0.7 \text{ cm}) \times 2} \quad \underbrace{\text{Top+Bottom}}_{(3.5 \times 4.5) \times 2}$$

Add all together

Cube 

$$1.5 \text{ cm} \times 1.5 = 2.25$$

$$\text{SA of cube} = 2.25 \text{ cm}^2 \times 6 = 13.5 \text{ cm}^2$$

SA of object = SA of prism + SA of cube - overlap

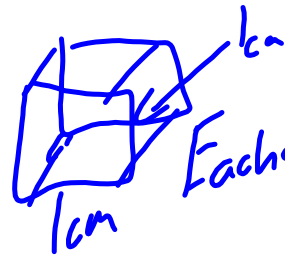
for every two shapes
 that cross one over lap.
 We lose 2 sides
 per overlap.

Surface Area

- Cylinder
- Rectangular Prism
- Triangular Prism
- Right-angle triangular Prism

} Composite object

Talon's Question



Area of 1 cube
 $= 6\text{cm}^2$

I have 4 cubes.
 $6\text{cm}^2 \times 4$ ← # of cubes
 $= 24\text{cm}^2$

For each connection
 I lose 2 faces.

1 = 2 faces
 2 = 4
 3 = 6
 4 = 8

$$\begin{aligned} \text{Total SA} &= 24\text{cm}^2 - 6\text{cm}^2 \\ &= 18\text{cm}^2 \end{aligned}$$

Cube = 6 squares,
 Area square = $b \times h$
 $= 1 \times 1$

Area: $1\text{cm} \times 1\text{cm}$
 $= 1\text{cm}^2$

Area cube: $1\text{cm}^2 \times 6$
 $= 6\text{cm}^2$


b) Cube \rightarrow All sides are same length.
 $A = l \times w$
 bxh

① $3.6m \times 3.6$ \leftarrow Area of surface.

② Answer $\times 6$ \leftarrow Area of cube.

Triangular Prism ① Area of 2 triangles. $\frac{bxh}{2} \times 2$ \leftarrow Because I have two triangles.
 ② Top Rectangles $(6.5 \times 3.6) \times 2$ \leftarrow Rect.
 ③ Base (5.0×3.6)

Rectangular Prism ① Top + Bottom ② Sides ③ Front + Back.

Area  = $l \times w$

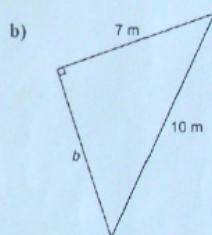
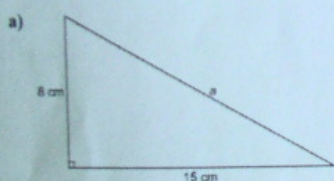
Overlap. \rightarrow 2 sides of cube + 2 (top of rectangular prism)
 $(3.6 \times 3.6) \times 2$ $2(5.0 \times 3.6)$

SA = Area cube + Area of triangular + Area rectangular - overlap.

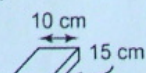
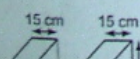
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Review for Unit 1 Square Roots and Surface Area

1. List the perfect square numbers between 48 and 124.
2. Determine the value of each of the following:
 - a. $\sqrt{225}$ b. $\sqrt{23.84}$ c. $\sqrt{0.0558}$ d. $\sqrt{\frac{25}{64}}$
3. State the number whose square root is:
 - a. 17 b. 4.8 c. 11.1
4. Which of the following are perfect squares?
 - a. 361 b. 61.4656 c. 11.1 d. 2.25 e. $\frac{16}{196}$ f. $\frac{49}{65}$
5. In each triangle, determine the unknown length to the nearest **tenth of a unit** where necessary.



6. Determine the OVERLAP of each of the following composite object.



Answers

1. Perfect Square Numbers between 48 and 124

$1 \times 1 = 1$
 $2 \times 2 = 4$
 $3 \times 3 = 9$
 $4 \times 4 = 16$
 $5 \times 5 = 25$
 $6 \times 6 = 36$
 $7 \times 7 = 49$
 $8 \times 8 = 64$
 $9 \times 9 = 81$
 $10 \times 10 = 100$
 $11 \times 11 = 121$
 $12 \times 12 = 144$

The square numbers between 48 and 124 are 49, 64, 81, 100, and 121.

2. a) $\sqrt{225} = 15$
b) $\sqrt{23.84} = 4.88$
c) $\sqrt{0.0558} = 0.24$
d) $\sqrt{\frac{25}{64}} = \frac{5}{8}$

0

a) $\sqrt{\frac{?}{289}} = 17$
 $\sqrt{289} = 17$

b) $\sqrt{\frac{?}{23.04}} = 4.8$
 $\sqrt{23.04} = 4.8$

c) $\sqrt{\frac{?}{23.21}} = 11.1$
 $\sqrt{23.21} = 11.1$

4. Perfect Squares? repeat or terminate

a) $\sqrt{361} = 19$ perfect square

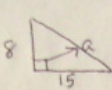
b) $\sqrt{61.4656} = 7.84$ perfect square

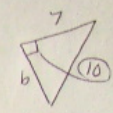
c) $\sqrt{11.1} = 3.33166625...$ not a perfect square

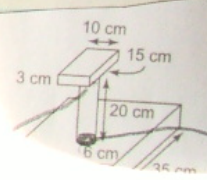
d) $\sqrt{2.25} = 1.5$ perfect square

e) $\sqrt{\frac{4}{25}} = \frac{2}{5}$ perfect square

f) $\sqrt{\frac{49}{65}} = \sqrt{0.753846154} = 0.868243142...$ not a perfect square

a)  $c^2 = a^2 + b^2$
 $c^2 = 8^2 + 15^2$
 $c^2 = 64 + 225$
 $\sqrt{c^2} = \sqrt{289}$
 $c = 17$

b)  $c^2 = a^2 + b^2$
 $10^2 = 7^2 + b^2$
 $100 = 49 + b^2$
 $100 - 49 = b^2$
 $\sqrt{51} = \sqrt{b^2}$
 $7.1 = b$

6.  "Overlap"

6.

"Overlap"

$A = L \times w$ $= 15 \times 30$ $= 450$ $\frac{\times 2}{900}$	$A = L \times w$ $= 15 \times 30$ $= 450$ $\frac{\times 2}{900}$
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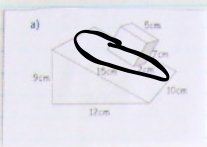
Overlap

900	+ 900	1800 cm ²
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$A = \pi r^2$ $= (3.14)(3)^2$ $= (3.14)(9)$ $= 28.26$ $\frac{\times 2}{56.52}$	$A = \pi r^2$ $= (3.14)(3)^2$ $= 3.14(9)$ $= 28.26$ $\frac{\times 2}{56.52}$
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Overlap

56.52	+ 56.52	113.04 cm ²
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7. a) 






Rectangular Prism

Top/Bottom	Front/Back	Side/Side
$A = L \times W$	$A = L \times W$	$A = L \times W$
$= 5 \times 7$	$= 5 \times 2$	$= 7 \times 2$
$= 35$	$= 10$	$= 14$
$\times 2$	$\times 2$	$\times 2$
70	20	28

overlap \rightarrow 20

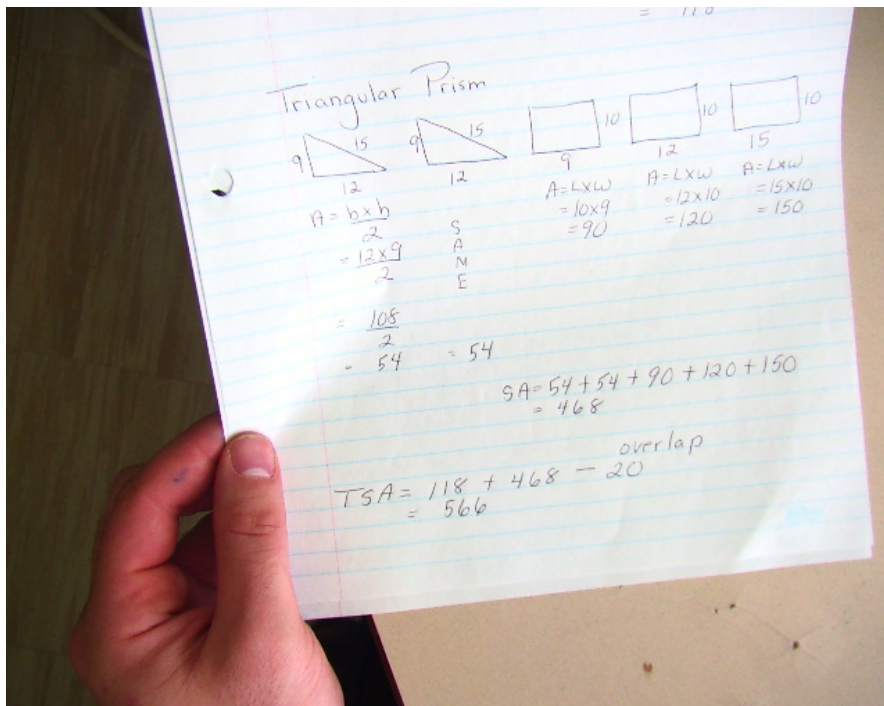
$$SA = 70 + 20 + 28 = 118$$

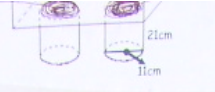
Triangular Prism

				
$A = \frac{b \times h}{2}$	S	$A = L \times W$	$A = L \times W$	$A = L \times W$
$= \frac{12 \times 9}{2}$	A	$= 10 \times 9$	$= 12 \times 10$	$= 15 \times 10$
$= 54$	M	$= 90$	$= 120$	$= 150$
	E			

$$SA = 54 + 54 + 90 + 120 + 150 = 468$$

overlap



overlap  overlap

Rectangular Prism

Top/Bottom	Front/Back	Side/Side
$A = L \times w$	$A = L \times w$	$A = L \times w$
$= 30 \times 16$	$= 30 \times 12$	$= 12 \times 16$
$= 480$	$= 360$	$= 192$
$\frac{\times 2}{960}$	$\frac{\times 2}{720}$	$\frac{\times 2}{384}$

$SA = 960 + 720 + 384$
 $= 2064$

Cylinder

$SA = 2\pi r^2 + 2\pi rh$
 $= 2(3.14)(5.5)^2 + 2(3.14)(5.5)(21)$
 $= 2(3.14)(30.25) + 725.34$
 ~~$= 189.97$~~ $+ 725.34$
 $= 915.31$

Cylinder #2 is the same
 $= 915.31$

$TSA = 2064 + 915.31 + 915.31 - 189.97 - 189.97$
 $= 3514.68$