Name: _____ Class: _____ Date: _____ ID: A

Chapter 1 Test Review

Multiple Choice

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

B 1. Determine the value of $\sqrt{2.56}$.
a. 0.64 b. 1.6 c. 0.16 d. 0.8

B 2. Calculate the number whose square root is 8.1.
a. 32.4 b. 65.61 c. 0.9 d. 81

A 3. Which decimal has a square root between 15 and 16?
i) 272.3
ii) 196
iii) 15.5
iv) 233.5
a. iv b. i c. ii d. iii

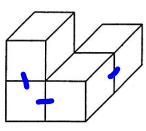
D 4. Which fraction has a square root between 3 and 4?
i) $\frac{61}{7}$
ii) $\frac{42}{5}$
iii) $\frac{53}{5}$
iv) $\frac{60}{7}$
a. i b. iv c. ii d. iii

B/C 5. Estimate the value of $\sqrt{0.95}$, to the nearest tenth.
a. 0.9 b. 0.97 c. 1.0 d. 0.3

B/A 6. A square has an area of 27.8 cm².
Determine the side length of the square, to the nearest millimetre.
a. 5.27 cm b. 5 cm c. 5.2 cm d. 5.3 cm

B 7. The lengths of the two legs of a right triangle are 6.5 cm and 3.2 cm.
Determine the length of the hypotenuse to 1 decimal place.
a. 3.1 cm b. 7.2 cm c. 5.7 cm d. 52.5 cm

D 8. This composite object is made using centimetre cubes. Determine its surface area.



a. 24 cm² b. 20 cm² c. 15 cm² d. 18 cm²

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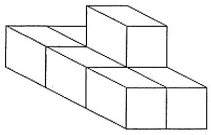
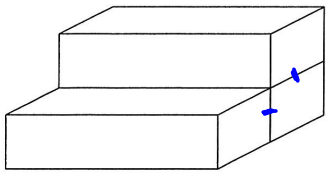
D 9. This object is made from 7 centimetre cubes. Determine its surface area.



7x6 = 42 -16
= 26

a. 20 cm² b. 28 cm² c. 42 cm² d. 26 cm²

C 10. This object is made from 3 identical right rectangular prisms.
Each prism is 65 cm long and has square ends of side length 20 cm.
What is the surface area of the object?

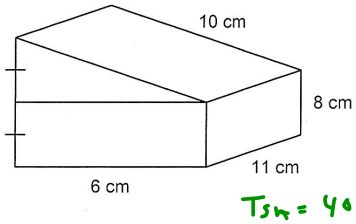


2 4
A=20x20 A = 20x65
A = 400 A = 1300
x2 x4
800 + 5200
6000

TSA = 6000+6000+6000
- 2600 -2600

a. 10 200 cm² b. 18 000 cm² c. 12 800 cm² d. 11 600 cm²

B 11. This object is composed of a right triangular prism on top of a right rectangular prism.
Determine the surface area of the object.



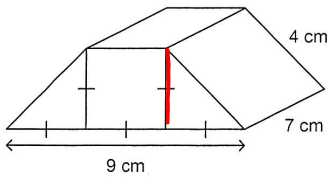
rect prism 6, 8, 11
A=bxh A=6x8 A=48 x2
A=bxh A=6x11 A=66 x2
A=bxh A=8x11 A=88 x1
96 + 132 + 176 = 404

tri prism
A=bxh/2 A=6x8/2 A=24 x2
A=bxh A=6x11 A=66
A=bxh A=8x11 A=88
A=bxl A=10x11 A=110
48 + 66 + 88 + 110 = 312

TSA = 404 + 312 - 132

a. 342 cm² b. 584 cm² c. 728 cm² d. 518 cm²

A 12. This object is composed of two right triangular prisms and a right rectangular prism.
Determine the surface area of the object.



rect 3, 3, 7
A=7x3 A=21 x2 A=42
A=7x3 A=21 x2 A=42
A=3x3 A=9 x2 A=18
42 + 42 + 18
102

A=bxh/2 A=3x3/2 A=4.5 x2 A=9
A=bxh A=3x7 A=21
A=bxh A=3x7 A=21
A=bxh A=4x7 A=28
9 + 21 + 21 + 28 = 79
79

TSA = 102 + 79 + 79 - 42 - 42

176 cm²

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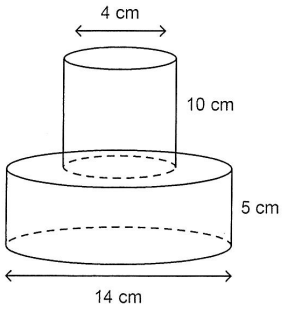
_ 13. This object is composed of a cylinder of diameter 4 cm and height 10 cm on top of another cylinder of diameter 14 cm and height 5 cm.
Determine the surface area of the object, to the nearest square centimetre.



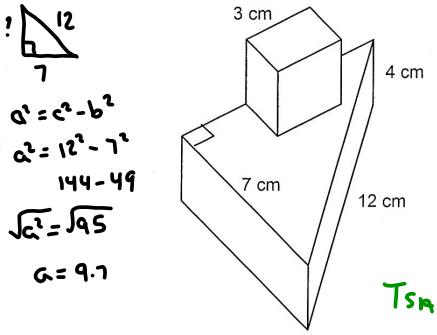
Sm
$2\pi r^2 + 2\pi r h$
$2(\pi)(2)^2 + 2\pi(2)(10)$
$2(\pi)(4) + 2\pi(2)(10)$
$25.14 + 125.6$
150.74

Lg
$2\pi r^2 + 2\pi r h$
$2\pi(7)^2 + 2\pi(7)(5)$
$2\pi(49) + 2\pi(7)(5)$
$307.72 + 219.8$
527.52

$TSA = 150.74 + 527.52 - 25.14 = 653.12$

a. 500 cm² b. 657 cm² c. 661 cm² d. 653 cm²

A 14. A 3-cm cube is attached to the top of a right triangular prism as shown.
Determine the surface area of the composite object, to the nearest square centimetre.



? 12 7
$a^2 = c^2 - b^2$
$a^2 = 12^2 - 7^2$
$144 - 49$
$\sqrt{a^2} = \sqrt{95}$
$a = 9.7$

Cube
3
$A = b^2$
$A = 3^2$
$A = 9$ → 2(3×3) = 18
×6
54

? ? 7
$A = \frac{b \times h}{2}$
$A = \frac{7 \times 9.7}{2}$
$A = 34.1$
$2A = 68.2$

4 7 4 ? 4 12
$A = b \times h$
$A = 7 \times 4$
$A = 28$
$A = 9.7 \times 4$
$A = 38.4$
$A = b \times h$
$A = 12 \times 4$
$A = 48$

$SA = 68.2 + 28 + 38.4 + 48$
182.6

$TSA = 54 + 182.6 - 18 = 218.6$

a. 219 cm² b. 185 cm² c. 228 cm² d. 210 cm²

C 15. Determine the value of $\sqrt{0.25}$.
a. 0.05 b. 0.125 c. 0.5 d. 0.0625

B 16. Which numbers are perfect squares?
i) $\sqrt{42.25}$ ✓
ii) $\sqrt{32}$
iii) $\sqrt{28.9}$
iv) $\sqrt{3.24}$

$\sqrt{\frac{4225}{100}} = \frac{65}{10}$, $\sqrt{\frac{32}{1}} = \frac{?}{1}$, $\sqrt{\frac{289}{10}} = \frac{17}{?}$, $\sqrt{\frac{324}{100}} = \frac{18}{10}$

a. i and ii b. i and iv c. ii and iii d. i and iii

A 17. Determine the value of $\sqrt{\frac{50}{72}}$. ÷2 ÷2 $= \sqrt{\frac{25}{36}} = \frac{5}{6}$

a. $\frac{5}{6}$ b. $\frac{5}{12}$ c. $\frac{25}{36}$ d. $\frac{10}{6}$

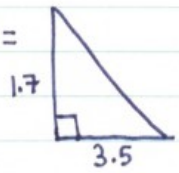
Short Answer

18) $\sqrt{2.89} = 1.7$

19) $\sqrt{\frac{289}{361}} = \frac{17}{19}$

20) $\sqrt{0.27} \doteq 0.5$

21) =



$c^2 = a^2 + b^2$

$c^2 = 1.7^2 + 3.5^2$

$c^2 = 2.89 + 12.25$

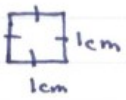
$c^2 = 15.14$

$\sqrt{c^2} = \sqrt{15.14}$

$c = 3.9$ cm

Short Answer

22) 6 cubes x 6 faces
= 36 faces − 10 over lap faces
= 26 faces
× 1 cm²
26 cm²



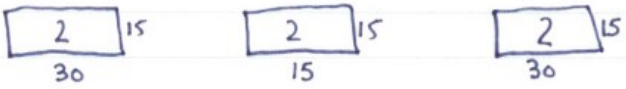
A = 1 x 1
A = 1cm²

23) Cube
SA = 6 x b²
SA = 6 x 10²
SA = 6 x 100
SA = 600 cm²

over lap

A = 2(10x10)
= 200

Rectangular prism (30, 15, 15)



A = b x h
A = 30 x 15
A = 450
2A = 900

A = b x h
A = 15 x 15
A = 225
A = 450

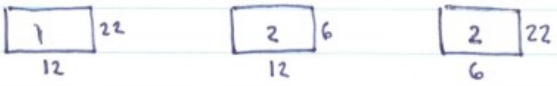
A = 900

$SA_2 = 900 + 450 + 900$
$SA_2 = 2250$

TSA = SA_1 + SA_2 − overlap
= 600 + 2250 − 200
= 2650cm²

Short Answer

24) Rectangular Prism (12, 22, 6)



$A = bxh$	$A = bxh$	$A = bxh$
$A = 12 \times 22$	$A = 12 \times 6$	$A = 6 \times 22$
$A = 264$	$A = 72$	$A = 132$
	$2A = 144 m^2$	$2A = 264 m^2$

$SA_1 = 264 + 144 + 264$

$= 672 m^2$

Cylinder Half Cylinder

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

$= (3.14)(6)^2 + (3.14)(6)(22)$

$= 113.1 + 414.7$

$SA_2 = 527.78$

$T_{SA} = SA_1 + SA_2 - \text{overlap}$

$= 672 + 527.78 - (12 \times 22)$

$= 672 + 527.78 - 264$

$= 935.78 m^2$

Short Answer

25) Cylinder : $r = 9$ $h = 4$

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

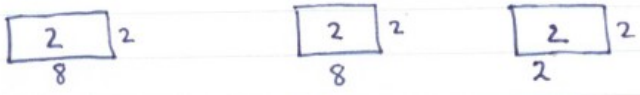
$= 2(3.14)(9)^2 + 2(3.14)(9)(4)$

$= 508.9 + 226.2$

$\boxed{SA_1 = 735.13 cm^2}$

Cylinder 2 : $\boxed{SA_2 = 735.13 cm^2}$

Rectangular Prism : (8, 2, 2)



$A = bxh$ $A = 8 \times 2$ $A = 16$ $2A = 32$

$A = bxh$ $A = 8 \times 2$ $A = 16$ $2A = 32$

$A = bxh$ $A = 2 \times 2$ $A = 4$ $2A = 8$

$SA_3 = 32 + 32 + 8$

$\boxed{SA_3 = 72 cm^2}$

$TSA = SA_1 + SA_2 + SA_3 - overlap - overlap$

$= 735.13 + 735.13 + 72 - 8 - 8$

$\boxed{TSA = 1526.3 cm^2}$

Short Answer

26) $\sqrt{\dfrac{\sqrt{81}+\sqrt{49}}{\sqrt{196}-\sqrt{100}}} = \sqrt{\dfrac{9+7}{14-10}}$

$= \sqrt{\dfrac{16}{4}}$

$= \sqrt{4}$

$= 2$