

Geometry and Measurement Review

Answer key Final answers only. Try first, then check.

CORE SKILLS

- K1**
- a) Complement 52° ; supplement 142°
 - b) $a = 64^\circ$, $b = 116^\circ$
 - c) $\angle Q = 74^\circ$, $\angle PRQ = 49^\circ$

- K2**
- a) Interior: 1080° ; exterior: 360°
 - b) 15 sides; each interior angle 156°
 - c) $\angle ACB = 65^\circ$

- K3**
- a) 25 cm
 - b) $x = 15$ cm
 - c) $\sqrt{85} \approx 9.2$ m

- K4**
- a) $C \approx 44.0$ cm; $A \approx 153.9$ cm²
 - b) $P = 38$ cm; $A = 72$ cm²
 - c) $A \approx 2513.3$ cm²; $P \approx 205.7$ cm

- K5**
- a) $160\pi \approx 502.7$ cm³
 - b) $\frac{160\pi}{3} \approx 167.6$ cm³
 - c) 400 m³

REAL WORLD

- A1**
- a) Run 6 m; ramp surface ≈ 6.02 m
 - b) 1.6 m
 - c) No: a 0.9 m rise needs at least $12 \times 0.9 = 10.8$ m of run, and only 8 m is available. A straight ramp can't fit; the rink needs a ramp with a turn (switchback) or a lift.

- A2**
- a) $120\pi \approx 377.0$ cm²
 - b) $170\pi \approx 534.1$ cm²
 - c) No: unrolled, the label is a rectangle about 31.4 cm long (the circumference $2\pi(5)$) and 12 cm high. Both sides of the sheet are shorter than 31.4 cm, so it can't reach all the way round, even though its area is larger.

- A3**
- a) $L = 60 - 2w$; L : 50, 40, 30, 20, 10; area: 250, 400, 450, 400, 250 m²
 - b) Square: 20 m by 20 m, 400 m². The 15 m by 30 m garden gives 450 m², which is more.
 - c) $L = 24$ m, $w = 18$ m; area 432 m²

THINK IT THROUGH

- T1**
- a) $3x - 10 = 180 - 112 = 68$, so $x = 26$
 - b) 72° . Not parallel: the alternate interior angles are 72° and 68° , which are not equal.
 - c) The student assumed $\ell \parallel m$ from the Z shape; alternate angles are equal only when the lines are given as parallel. With $x = 30$, the angles at B would be $80^\circ + 112^\circ = 192^\circ$, but a straight line is 180° .

- T2**
- a) Sum: 108 cm²; new solid: 90 cm²
 - b) Where the cubes touch, one face of each cube is hidden inside the solid. The rule counts those two 9 cm² faces, so it is 18 cm² too high.
 - c) 144 cm², a 2×2 square slab (four touching pairs hide 8 faces). A straight row gives 162 cm².

BOSS LEVEL

- Boss**
- a) $64\pi \text{ cm}^3$
 - b) $\frac{8\pi}{64\pi} = \frac{1}{8}$
 - c) $\frac{\pi d^3}{27} = 32\pi$, so $d^3 = 864$ and $d \approx 9.5 \text{ cm}$
-

Free worksheet · vertexmath.ca · Free to print and share for classroom use

Free to print, copy, adapt and share for classroom use · CC BY-NC 4.0 · © VertexMath



vertexmath.ca

Hints, answers &
more worksheets