Intro to Geometry 5 - Review

Check your answers against those on my website as you work! Don’t wait until you’re done.

Write the formula for the area of each shape:

Triangle \( A_T = \frac{1}{2} b \cdot h \)

Square \( A_S = s^2 \)

Rectangle \( A_R = l \cdot w \)

Circle \( A_C = \pi r^2 \)

Compute the area:

1. A triangle with base 18cm and height 4cm.
   \[ A_T = \frac{1}{2} \cdot 18 \cdot 4 = 36 \text{ cm}^2 \]
2. A square with side length 10cm.
   \[ A_S = 100 \text{ cm}^2 \]
3. A rectangle with side lengths 19u and 12u.
   \[ A_R = 228 \text{ u}^2 \]
4. A circle with radius 2.5m.
   \[ A_C = 19.6 \text{ m}^2 \]

Solve for the missing value:

1) A triangle with area 60cm² and base 40cm.
   \[ A_T = \frac{1}{2} \cdot 60 \text{ cm}^2 \]
2) A square with area 169cm².
   \[ A_S = 13 \text{ cm}^2 \]
3) A rectangle with area 14cm² and side 100cm.
   \[ A_R = 14 \text{ cm}^2 \]
4) A circle with area 900cm².
   \[ A_C = 30.16 \text{ cm}^2 \]

Estimate, then check: Square root of 994

Square root of 17

Square root of 203

Solve: 2.5A² = 250

What is the side length of a square with area 520cm²? What if its area is 49m²?

What is the side length of a cube with volume 201cm³? What if its volume is 1425m³?
Compute the area:

1. A triangle with base 4cm and height 14cm.
   \[ A_\Delta = \frac{1}{2} \cdot b \cdot h = \frac{1}{2} \cdot (4\text{cm}) \cdot (14\text{cm}) = 28\text{cm}^2 \]

2. A square with side length 1.2m.
   \[ A_\square = a^2 = (1.2\text{m})^2 = 1.44\text{m}^2 \]

3. A rectangle with sides 19mm and 21mm.
   \[ A_\square = l \cdot w = (19\text{mm}) \cdot (21\text{mm}) = 399\text{mm}^2 \]

4. A circle with a circumference of 75cm.
   \[ \text{C} = 2\pi r \]
   \[ 75\text{cm} = 2\pi r \]
   \[ r = \frac{75\text{cm}}{2\pi} = 11.9\text{cm} \]

Solve:

\[ D^2 + 25^2 = 40^2 \]
\[ D^2 + 625 = 1600 \]
\[ D^2 = 975 \]
\[ D = \sqrt{975} \approx 31.2 \]

3\(M^2 - 11^2 = 16^2 \)
\[ 3M^2 = 133 \]
\[ M = \sqrt{\frac{133}{3}} \approx 5.29 \]

4\(N^3 - 49 = 9^3 \)
\[ 4N^3 = 19 \]
\[ N = \sqrt[3]{\frac{19}{4}} \approx 2.8 \]

Estimate, then check:

- Cube root of 995
  \[ q = 729, \quad 10^3 = 1000 \quad \sqrt[3]{995} \approx 10 \]

- Cube root of 420
  \[ \sqrt[3]{420} \approx 7.4, 7.5 \]

- Cube root of 813
  \[ \sqrt[3]{813} \approx 9.3 \]

Determine the area:

- See It 6.3 Solutions.