Name: Key Block:

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 $A_\triangle = \frac{b \cdot h}{2}$ Square $A_\square = s^2$ Rectangle $A_\square = l \cdot w$ Circle $A_\odot = \pi r^2$

Compute the area:

1. A triangle with base 18cm and height 4cm.

$A_\triangle = \frac{b \cdot h}{2} = \frac{(18cm)(4cm)}{2} = 36cm^2$

2. A square with side length 10cm.

$A_\square = s^2 = (10cm)^2 = 100cm^2$

3. A rectangle with side lengths 19u and 12u.

$A_\square = l \cdot w = (19u)(12u) = 228u^2$

4. A circle with radius 2.5m.

$A_\odot = \pi r^2 = \pi(2.5m)^2 = \pi(6.25m^2) \doteq 19.6m^2$

Solve for the missing value:

1) A triangle with area 60cm² and base 40cm.

$A_\triangle = \frac{1}{2}bh$

$60cm^2 = \frac{1}{2}(40cm)h$

$60cm^2 = (20cm)h$

$\div 20cm \quad \div 20cm$

$3cm = h$

2) A square with area 169cm².

$A_\square = s^2$

$169cm^2 = s^2$

$\sqrt{\quad} \quad \sqrt{\quad}$

$13cm = s$

3) A rectangle with area 14cm² and side 100cm.

$A_\square = l \cdot w$

$14cm^2 = (100cm) \cdot w$

$\div 100cm \quad \div 100cm$

$0.14cm = w$

4) A circle with area 900cm².

$A_\odot = \pi r^2$

$900cm^2 = \pi r^2$

$\div \pi \quad \div \pi$

$286.5cm^2 \doteq r^2$

$\sqrt{\quad} \quad \sqrt{\quad}$

$16.9cm \doteq r$

Estimate, then check: Square root of 994 Square root of 17 Square root of 203

$31^2 = 961$, $32^2 = 1024$ $\Rightarrow$ 31.5 $4^2 = 16$, $5^2 = 25$ $\Rightarrow$ 4.1 $14^2 = 196$, $15^2 = 225$ $\Rightarrow$ 14.2

Solve: $2.5A^2 = 250$

$\div 2.5 \quad \div 2.5$

$A^2 = 100$

$\sqrt{\quad} \quad \sqrt{\quad}$

$A = 10$

$15B^2 - 15 = 225$

$+15 \quad +15$

$15B^2 = 240$

$\div 15 \quad \div 15$

$B^2 = 16$

$\sqrt{\quad} \quad \sqrt{\quad}$

$B = 4$

$2C^3 + 50 = 300$

$-50 \quad -50$

$2C^3 = 250$

$\div 2 \quad \div 2$

$C^3 = 125$

$\sqrt[3]{\quad} \quad \sqrt[3]{\quad}$

$C = 5$

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

$A_\square = 520cm^2 = s^2$

$\sqrt{\quad} \quad \sqrt{\quad}$

$22.8cm \doteq s$

$A_\square = s^2$

$49m^2 = s^2$

$\sqrt{\quad} \quad \sqrt{\quad}$

$7m = s$

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

$V_\square = s^3$

$201cm^3 = s^3$

$\sqrt[3]{\quad} \quad \sqrt[3]{\quad}$

$5.9cm \doteq s$

$V_\square = s^3$

$1425m^3 = s^3$

$\sqrt[3]{\quad} \quad \sqrt[3]{\quad}$

$11.3m \doteq s$

Compute the area:

1. A triangle with base 4cm and height 14cm.

$A_\triangle = \frac{1}{2}bh = 28cm^2$

$= \frac{1}{2}(4cm)(14cm)$

2. A square with side length 1.2m.

$A_\square = s^2 = 1.44m^2$

$= (1.2m)^2$

3. A rectangle with sides 19mm and 21mm.

$A_\square = l \cdot w$

$= (19mm)(21mm)$

$= 399mm^2$

4. A circle with a circumference of 75cm.

$A_O = \pi r^2$

$\doteq \pi(11.9)^2$

$\doteq \pi(141.6cm^2)$

$\doteq 444.8cm^2$

$C = 2\pi r$

$75cm = 2\pi r$

$\div 2\pi \quad \div 2\pi$

$11.9cm \doteq r$

Solve: $D^2 + 25^2 = 40^2$

$D^2 + 625 = 1600$

$-625 \quad -625$

$D^2 = 975$

$\sqrt{\ } \quad \sqrt{\ }$

$D \doteq 31.2$

$3M^2 - 11^3 = 16^2$

$3M^2 - 1331 = 256$

$+1331 \quad +1331$

$3M^2 = 1587$

$\div 3 \quad \div 3$

$M^2 = 529$

$\sqrt{\ } \quad \sqrt{\ }$

$M = 23$

$4N^3 - 49 = 9^3$

$4N^3 - 49 = 729$

$+49 \quad +49$

$4N^3 = 778$

$\div 4 \quad \div 4$

$N^3 = 194.5$

$\sqrt[3]{\ } \quad \sqrt[3]{\ }$

$N \doteq 5.8$

Estimate, then check: Cube root of 995

$9^3 = 729, \ 10^3 = 1000 \quad \sqrt[3]{995} \doteq 10$

Cube root of 420

$7^3 = 343, \ 8^3 = 512$

$\sqrt[3]{420} \doteq 7.4, 7.5$

Cube root of 813

$9^3 = 729, \ 10^3 = 1000$

$\sqrt[3]{813} \doteq 9.3$

Determine the area:

See Itb 3 Solutions.