Name: Key Block:

Intro to Geometry 2 - Areas of Building Blocks

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

Complete the following review problems: (Complete all)

Evaluate $\frac{1}{2}+\frac{2}{3}\cdot\frac{3}{4}-2$

$= \frac{1}{2} + \frac{1}{2} - 2$

$= 1 - 2$

$= -1$

Solve: $2x - 4 = 3(2x - 10)$

$2x - 4 = 6x - 30$

$-2x \quad -2x$

$-4 = 4x - 30$

$+30 \quad +30$

$26 = 4x$

$\div 4 \quad \div 4$

$6.5 = x$

$\frac{1}{2}x - 4 = -2(3x - 1)$

$\frac{1}{2}x - 4 = -6x + 2$

$+6x \quad +6x$

$6\frac{1}{2}x - 4 = 2$

$+4 \quad +4$

$6\frac{1}{2}x = 6$

$\frac{13}{2}x = 6$

$\div\frac{13}{2} \quad \div\frac{13}{2}$

$x = \frac{12}{13}$

Write the formula for the area of each shape: (Complete all)

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

Compute the area of the described shape: (Complete some)

1) A triangle with base 2cm and height 7cm.

$A_\triangle = \frac{b \cdot h}{2} = 7cm^2$

$= \frac{2cm \cdot 7cm}{2}$

2) A square with side length 12cm.

$A_\square = s^2$

$= (12cm)^2$

$= 144cm^2$

3) A rectangle with side lengths 8u and 10u.

$A_\square = l \cdot w$

$= (8u)(10u)$

$= 80u^2$

4) A circle with radius 8m.

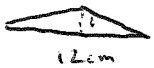
$A_O = \pi r^2$

$= \pi (8m)^2$

$= \pi \cdot 64m^2$

$= 64\pi m^2 \approx 201m^2$

5) A triangle with base 12cm and height 1cm.



$A_\triangle = \frac{b \cdot h}{2} = 6cm^2$

$= \frac{12cm \cdot 1cm}{2}$

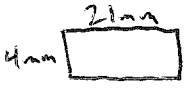
6) A square with side length 1.1m.

$A_\square = s^2$

$= (1.1m)^2$

$= 1.21m^2$

7) A rectangle with sides 4mm and 21mm.



$A_\square = l \cdot w$

$= (21mm)(4mm)$

$= 84mm^2$

8) A circle with a **diameter** of 10cm.

$d = 2r$

$\frac{d}{2} = r$

$\frac{10cm}{2} = r$

$5cm = r$

$A_O = \pi r^2$

$= \pi (5cm)^2$

$= \pi \cdot 25cm^2$

$= 25\pi cm^2$

$\approx 78.5cm^2$

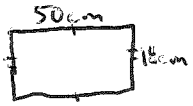
9) A triangle with base 11cm and height 40cm.

$A_\triangle = \frac{b \cdot h}{2}$

$= \frac{(11cm)(40cm)}{2}$

$= 220\,cm^2$

11) A rectangle with side lengths 50cm and 18cm.

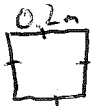


$A_\square = l \cdot w$

$= (50cm)(18cm)$

$= 900\,cm^2$

10) A square with side length 0.2m.



$A_\square = s^2$

$= (0.2m)^2$

$= 0.04\,m^2$

12) A circle with radius 3cm.

$A_\bigcirc = \pi r^2$

$= \pi (3cm)^2$

$= \pi \cdot 9cm^2$

$= 9\pi\,cm^2$

$\doteq 28.3\,cm^2$

Solve for the missing (or indicated) value: (Complete some)

1) A triangle with area 24cm² and base 8cm. (height)

$A_\triangle = \frac{b \cdot h}{2}$

$24cm^2 = \frac{8cm \cdot h}{2}$

$\cdot 2 \quad \cdot 2$

$48cm^2 = 8cm\,h$

$\div 8cm \quad \div 8cm$

$6cm = h$

6) A square with area 50cm².

$A_\square = s^2$

$50cm^2 = s^2$

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

$7.1cm \doteq s$

2) A square with area 81cm². (side)

$A_\square = s^2$

$81cm^2 = s^2$

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

$9cm = s$

7) A rectangle with area 1400cm² and side 20cm.

$A_\square = l \cdot w$

$1400cm^2 = 20cm \cdot w$

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

$70cm = w$

3) A rectangle with area 95m² and side 19m. (side)

$A_\square = l \cdot w$

$95m^2 = l \cdot 19m$

$\div 19m \quad \div 19m$

$5m = l$

8) A circle with area 6.28m² (radius)

$A_\bigcirc = \pi r^2$

$6.28m^2 = \pi r^2$

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

$2m^2 \doteq r^2$

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

$1.41m \doteq r$

4) A circle with area 314cm². (radius)

$A_\bigcirc = \pi r^2$

$314cm^2 = \pi r^2$

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

$100cm^2 \doteq r^2$

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

$10cm \doteq r$

9) A circle with area 200cm² (diameter)

$A_\bigcirc = \pi r^2$

$200cm^2 = \pi r^2$

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

$63.7cm^2 \doteq r^2$

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

$7.98cm \doteq r$

$d = 2 \cdot r$

$\doteq 2 \cdot 7.98cm$

$\doteq 15.96cm$

5) A triangle with area 100km² and height 50km.

$A_\triangle = \frac{b \cdot h}{2}$

$100km^2 = \frac{b \cdot 50km}{2}$

$100km^2 = b \cdot 25km$

$\div 25km \quad \div 25km$

$4km = b$

10) A circle with area 1000m² (circumference)

$A_\bigcirc = \pi r^2$

$1000m^2 = \pi r^2$

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

$318.3m^2 \doteq r^2$

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

$17.8m \doteq r$

$C = \pi \cdot d$

$= \pi \cdot 2r$

$\doteq 2 \cdot \pi \cdot 17.8m$

$\doteq 111.8m$