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 \( \frac{1}{2} + \frac{3}{4} - \frac{3}{2} - 2 \)

\[ = \frac{1}{2} + \frac{3}{4} - \frac{3}{2} - 2 \]

\[ = 1 - 2 \]

\[ = -1 \]

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

\[ 2x - 4 = 6x - 30 \]

\[ -2x \]

\[ -4 = 4x - 30 \]

\[ +30 \]

\[ 26 = 4x \]

\[ \frac{26}{4} = x \]

\[ = 6.5 = x \]

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

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

\[ +6x \]

\[ +4 \]

\[ 6\frac{1}{2}x - 4 = 2 \]

\[ +4 \]

\[ 6\frac{1}{2}x = 6 \]

\[ \frac{13}{2}x = 6 \]

\[ \frac{13}{2} \]

\[ = \frac{12}{13} \]

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

Triangle \( A_{\Delta} = \frac{1}{2}bh \)

Square \( A_{\square} = s^2 \)

Rectangle \( A_{\Box} = lw \)

Circle \( A_{C} = \pi r^2 \)

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

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

\[ A_{\Delta} = \frac{1}{2}bh \]

\[ = \frac{2 \times 7}{2} \]

\[ = 7 \text{cm}^2 \]

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

\[ A_{\Delta} = \frac{1}{2}bh \]

\[ = \frac{12 \times 1}{2} \]

\[ = 6 \text{cm}^2 \]

2) A square with side length 12cm.

\[ A_{\square} = s^2 \]

\[ = (12\text{cm})^2 \]

\[ = 144 \text{cm}^2 \]

6) A square with side length 1.1m.

\[ A_{\square} = s^2 \]

\[ = (1.1\text{m})^2 \]

\[ = 1.21 \text{m}^2 \]

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

\[ A_{\Box} = lw \]

\[ = (8u)(10u) \]

\[ = 80u^2 \]

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

\[ A_{\Box} = lw \]

\[ = (21\text{mm})(4\text{mm}) \]

\[ = 84 \text{mm}^2 \]

4) A circle with radius 8m.

\[ A_{C} = \pi r^2 \]

\[ = \pi (8\text{m})^2 \]

\[ = \pi \cdot 64 \text{m}^2 \]

\[ = 64\pi \text{m}^2 \approx 201 \text{m}^2 \]

8) A circle with a diameter of 10cm.

\[ A_{C} = \pi r^2 \]

\[ \frac{d}{2} = r \]

\[ 5 \text{cm} = r \]

\[ = \pi \left(\frac{5\text{cm}}{2}\right)^2 \]

\[ = \pi \cdot 25\text{cm}^2 \]

\[ = \frac{25\pi\text{cm}^2}{2} \]

\[ = 78.5 \text{cm}^2 \]
9) A triangle with base 11cm and height 40cm.

\[ A = \frac{bh}{2} = \frac{11 \times 40}{2} = 220 \text{ cm}^2 \]

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

\[ A = l \times w = 50 \times 18 = 900 \text{ cm}^2 \]

10) A square with side length 0.2m.

\[ A = s^2 = (0.2)^2 = 0.04 \text{ m}^2 \]

12) A circle with radius 3cm.

\[ A = \pi r^2 = \pi (3)^2 = 9\pi \text{ cm}^2 \]

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

1) A triangle with area 24cm$^2$ and base 8cm. (height)

\[ A = \frac{1}{2}bh = \frac{1}{2} \times 8 \times h = 24 \]

6) A square with area 50cm$^2$.

\[ A = s^2 = 50 \]

7) A rectangle with area 1400cm$^2$ and side 20cm.

\[ A = lw = 1400 \]

8) A circle with area 6.28cm$^2$ (radius)

\[ A = \pi r^2 = \frac{2\pi}{\pi} = \frac{2}{\pi} \]

9) A circle with area 200cm$^2$ (diameter)

\[ A = \pi r^2 = \frac{63.7}{\pi} \]

10) A circle with area 1000cm$^2$ (circumference)

\[ A = \pi r^2 = \frac{17.8}{\pi} \]

\[ C = 2\pi r = 2\pi \times 5 = 10 \pi \]

\[ C = 10 \pi = 31.4 \]

\[ C = 2\pi \times 5 = 10 \pi \]

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