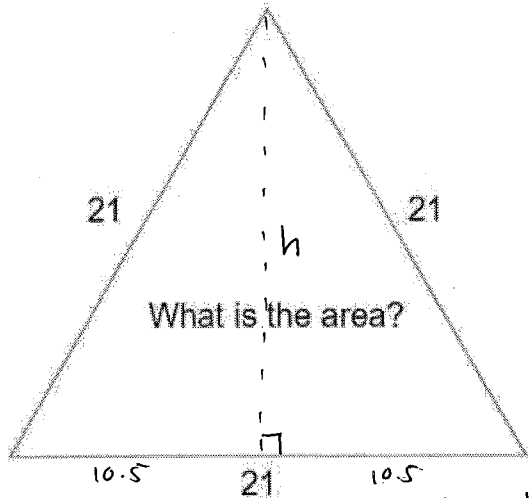
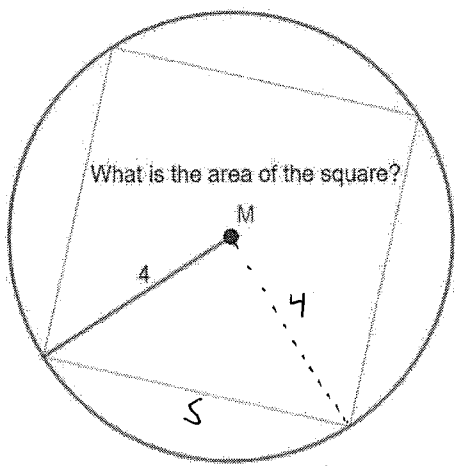


Name: Key

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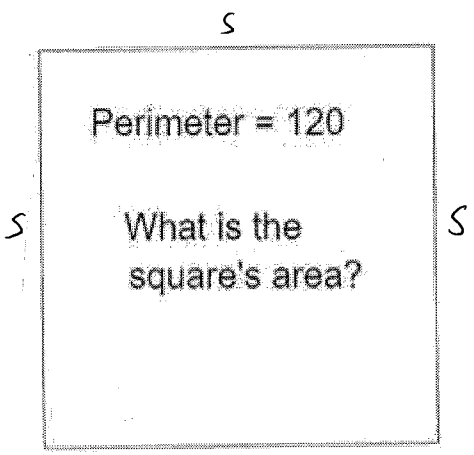
Intro to Geometry 4 - Areas and Algebra



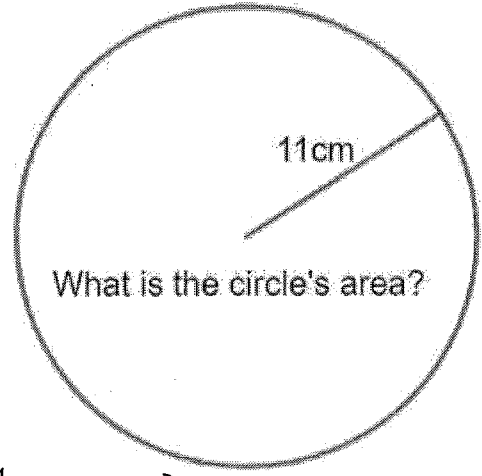
Method 1
 The \square is made of 4 Δ s.
 $A_{\square} = 4 A_{\Delta}$
 $= 4 \left(\frac{1}{2} b h \right)$
 $= 4 \left(\frac{1}{2} \cdot 4 \cdot 4 \right)$
 $= 32 \text{ units}^2$

Method 2
 Find sidelength of square.
 $A^2 + B^2 = C^2$ $A_{\square} = s^2$
 $4^2 + 4^2 = s^2$
 $16 + 16 = s^2$
 $32 = s^2$
 $\sqrt{32} = s$
 $s^2 = 32$, so $A_{\square} = 32$

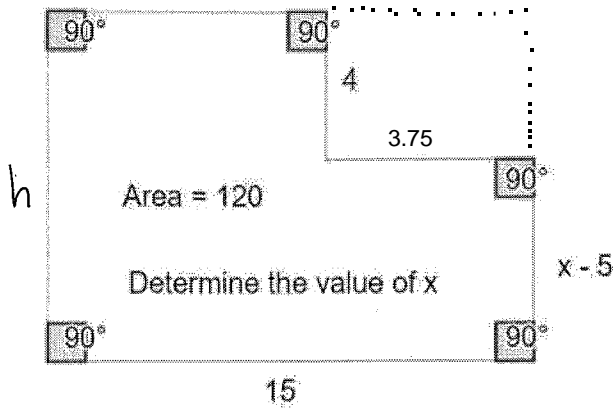
Need to find h !
 $h^2 + 10.5^2 = 21^2$
 $h^2 + 110.25 = 441$
 $\quad -110.25 \quad -110.25$
 $h^2 = 330.75$
 $\sqrt{\quad} \quad \sqrt{\quad}$
 $h \approx 18.19$
 $A_{\Delta} = \frac{1}{2} b h$
 $\approx \frac{1}{2} (21) (18.19)$
 $\approx 191 \text{ units}^2$



$P = 4s$
 $120 = 4s$
 $\div 4 \quad \div 4$
 $30 = s$
 $A_{\square} = s^2$
 $= (30)^2$
 $= 900 \text{ units}^2$



$A_{\circ} = \pi r^2$
 $= \pi (11 \text{ cm})^2$
 $= \pi \cdot 121 \text{ cm}^2$
 $\approx 380.13 \text{ cm}^2$



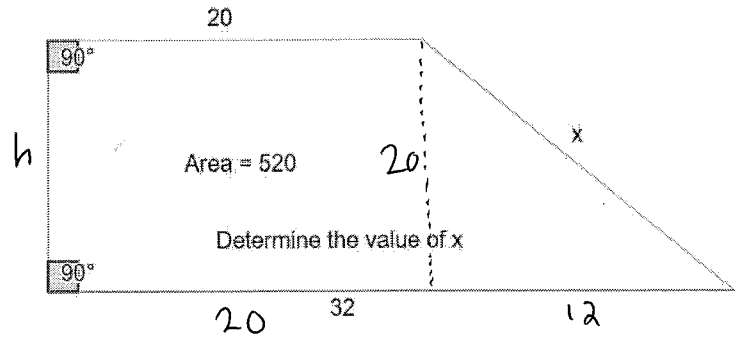
Find total area, then height, then x .

missing Area = $l \cdot w$
 $= 4 \cdot 3.75$
 $= 15$

total area = $120 + 15$
 $= 135$

$135 = l \cdot w$
 $135 = 15(h)$
 $\div 15 \quad \div 15$
 $9 = h$

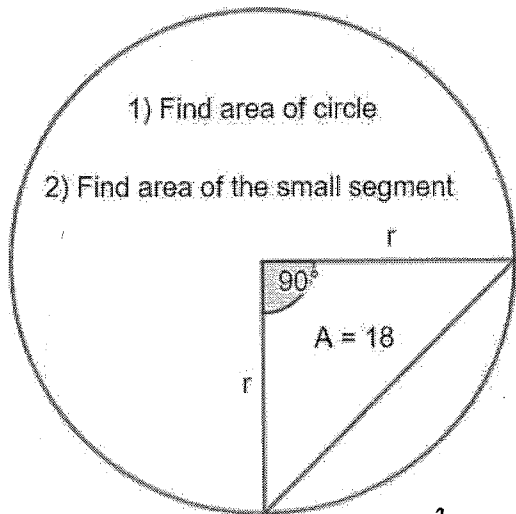
$9 = 4 + x - 5$
 $9 = x - 1$
 $10 = x$



Find h , then x .

$A_{total} = A_{\square} + A_{\Delta}$
 $520 = l \cdot w + \frac{1}{2}bh$
 $520 = 20h + \frac{1}{2}(12)(h)$
 $520 = 20h + 6h$
 $520 = 26h$
 $\div 26 \quad \div 26$
 $20 = h$

$A^2 + B^2 = C^2$
 $20^2 + 12^2 = x^2$
 $400 + 144 = x^2$
 $544 = x^2$
 $\sqrt{\quad} \quad \sqrt{\quad}$
 $23.32 = x$



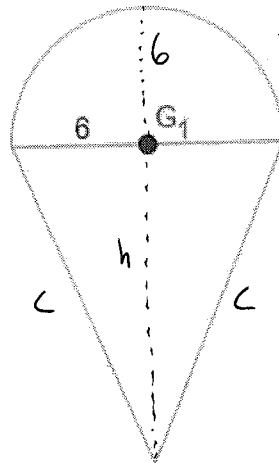
- 1) Find area of circle
- 2) Find area of the small segment.

~~Find r~~
 ~~$A^2 + B^2 = C^2$~~
 ~~$r^2 + r^2 = 18^2$~~

1) $A_{\circ} = \pi r^2$
 $= \pi (6)^2$
 $= \pi \cdot 36$
 $\approx 113.1 \text{ units}^2$

Find r
 $A_{\Delta} = \frac{1}{2}bh$
 $18 = \frac{1}{2}r \cdot r$
 $18 = \frac{1}{2}r^2$
 $\cdot 2 \quad \cdot 2$
 $36 = r^2$
 $\sqrt{\quad} \quad \sqrt{\quad}$
 $6 = r$

2) $A_{\text{segment}} = A_{\circ} - A_{\Delta}$
 $= \frac{1}{4}\pi r^2 - 18$
 $\approx \frac{1}{4}(113.1) - 18$
 $\approx 28.27 - 18$
 $\approx 10.27 \text{ units}^2$



The perimeter of the entire shape is 100.

Determine the height of the snowcone.

The cone is isosceles.

Find c , then h . $\backslash, / = c$

$P = \text{arc} + \backslash + /$ $A^2 + B^2 = C^2$
 $100 = \frac{1}{2}\pi \cdot d + 2\backslash$ $h^2 + 6^2 = c^2$
 $100 = \frac{1}{2}\pi(12) + 2\backslash$ $h^2 + 36 = (40.58)^2$
 $100 = 6\pi + 2\backslash$ $h^2 + 36 = 1646.74$
 $-6\pi \quad -6\pi$ $-36 \quad -36$
 $81.15 = 2\backslash$
 $\div 2 \quad \div 2$
 $40.58 = \backslash = c$ $h^2 = 1610.74$
 $\sqrt{\quad} \quad \sqrt{\quad}$
 $h = 40.13$

So the total height is $h + 6$
(for the snow) $\Rightarrow \approx 46.13$