1.2. Honors Geometry

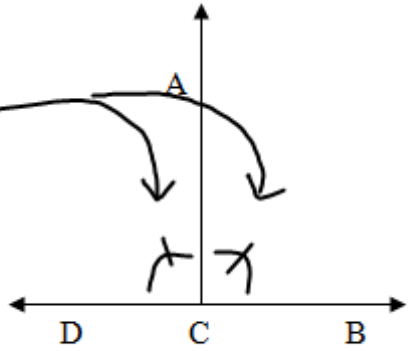
DATE: 9/5

Target 1C. Use and apply the concepts and skills of algebra to find segment lengths and angle measures.

1) Given: $\angle DCA = 3x+15$

$\angle BCA = 2x+28$

$\angle DCA \cong \angle BCA$



Are the two angles right ∠s?

$3x+15 = 2x+28$

$-2x \quad -2x$

$x+15 = 28$

$-15 \quad -15$

$x = 13$

$\angle DCA = 3(13)+15 = 54^\circ$

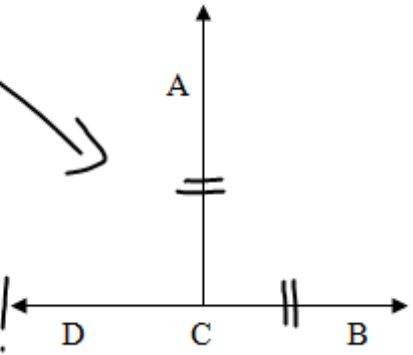
$\angle BCA = 2(13)+28 = 54^\circ$

∴ → means Therefore ∠DCA & ∠BCA are not right ∠s = 90° b/c they are 54° each.

2) Given: $\overline{AC} \cong \overline{BC}$ → Congruent

AC=5x-3

BC= x^2+3



Find x.

$5x-3 = x^2+3$ Set =0 first!

$-5x \quad -5x$

$0 = x^2-5x+6$ Try to factor. Need to know!!!

$0 = (x-2)(x-3)$ Binomial factors

By Zero Product Property

$0 = x-2$ or $0 = x-3$

$+2 \quad +2 \qquad +3 \quad +3$

$2 = x$ or $3 = x$ Done!

+6 −5

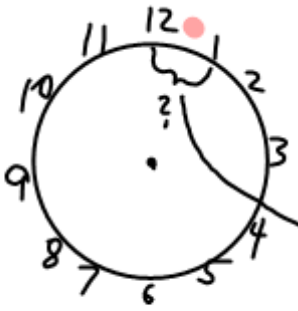
$-2 \cdot -3 = +6$ ✓

$-2-3 = -5$ ✓

	+6
1	6
2	3
−2	−3
−1	−6

Right factors

Clock Problems



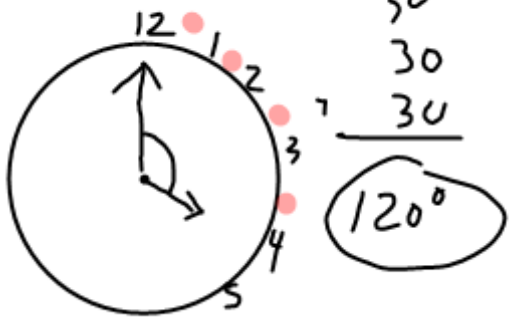
What's the deg. measure from 12 to 1?

30°

- 1 rev. $= 360^\circ$
- $\frac{360}{12} = 30^\circ$

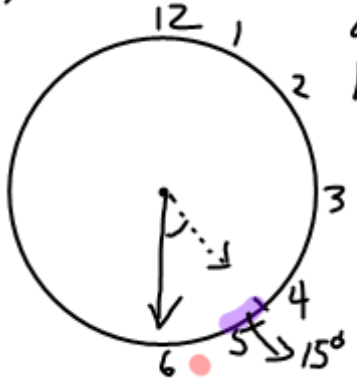
What's the measure of an $\angle$ formed by the hands of a clock at:

a) 4:00



30
30
30
30
120°

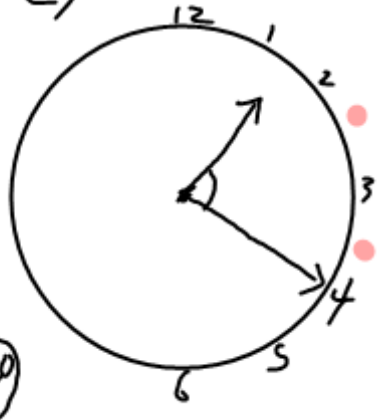
b) 4:30



Min hand at 30 past hr = hr hand 1/2 way from 4 to 5.

30
+15
45°

c) 1:20



or $\frac{1}{3}(30) = 10$; $30 - 10$ $\quad \frac{2}{3}(30) = 20^\circ$

30
30
20
80°