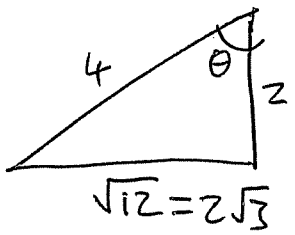
1.



$4^2 = a^2 + 2^2$

$16 = a^2 + 4$

$\Rightarrow a = \sqrt{12}$ (1)

$\sin\theta = \frac{\sqrt{12}}{4} = \frac{\sqrt{3}}{2}$ (1)

$\cos\theta = \frac{2}{4} = \frac{1}{2}$ (1)

$\tan\theta = \frac{\sqrt{12}}{2} = \sqrt{3}$ (1)

$\csc = \frac{2}{\sqrt{3}} = \frac{2\sqrt{3}}{3}$ (1)

$\sec = 2$ (1)

$\cot = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$ (1)

7

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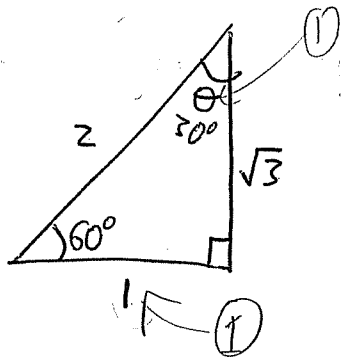
2. $\cos(\theta) = \frac{adj}{hyp} = \frac{3\sqrt{3}}{6} = \frac{\sqrt{3}}{2}$



(1)

(1)

(a) $\theta = 30°$ (1)

(b) $\tan(\theta) = \frac{opp}{adj} = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$ (1)

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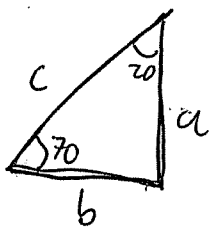
3. $\sin(70) = \frac{opp}{hyp} = \frac{a}{c} = \cos(20)$ (1)

$\sec(20) = \frac{1}{\cos(20)} = \frac{1}{0.94} \left(\approx 1.064\right)$ (1)

(1)

$\left(= \frac{1}{\frac{94}{100}} = \frac{100}{94} = \frac{50}{47}\right)$



4.

$230° \longrightarrow 230°$ (1)

$15' \longrightarrow \frac{15}{60}° = \frac{1}{4} = 0.25$ (1)

$230.25°$ (1)

5.

$1° = 60'$

$0.5° = (0.5 \times 60)' = 30'$ (1) 3

$10.5° = 10° 30'$ (2)