8) a) $2x^2 - 18y^2$

$2(x^2 + 9y^2)$

can't factor more

ex $(x - 3y)^2 = x^2 - 6xy + 9y^2$

not $x^2 + 9y^2$

b) $x^2 - 4x - 12$

$(x + 2)(x - 6)$

$x^2 + 2x - 6x - 12$

$x^2 - 4x - 12$

9) $x + 2y = 12 \Rightarrow y = (12 - x)\frac{1}{2}$

$2x - y = 4 \Rightarrow y = 2x - 4$
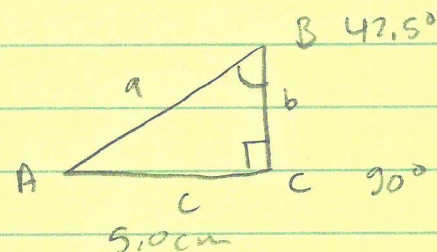
$x + 2(2x - 4) = 12$

$x + 4x - 8 = 12$

$5x = 20$

$x = 4 \qquad \Rightarrow y = 2(4) - 4 = 4$

$x = y = 4$

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7) $\angle C = 90°$

$\angle B = 42.5$

$c = 5 cm$

for $c\angle = 90°$

$a^2 = b^2 + c^2$

$\Sigma \angle = 180°$

$\angle C + \angle B + \angle A = 180°$

$90 + 42.5 + \angle A = 180°$

$\therefore \angle A = 47.5°$

$\frac{O}{h} = SIN \qquad \frac{a}{h} = cos \qquad \frac{O}{A} = TAN$

for $\angle A \qquad \frac{b}{a} = SIN A \qquad \frac{c}{a} = cos A \qquad \frac{b}{c} = tan A$

$\therefore b = c \tan A = 5.4565 cm$

$a^2 = c^2 + b^2 = 5^2 + 5.4565^2 \Rightarrow a = 7.4 cm$