8.8 Special Right Triangles
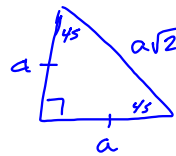
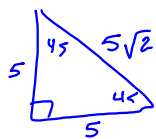Look at 2 special
angles shns

Trig review

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45 - 45 - 90

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

$\sqrt{2a^2} = \sqrt{c^2}$

$\sqrt{a^2} \cdot \sqrt{2} = c$
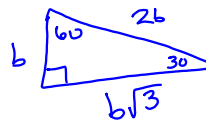
$a\sqrt{2} = c$

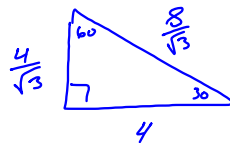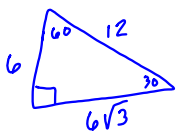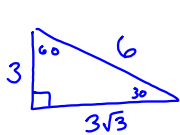

$a\sqrt{2} = 6$

$a = \frac{6}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{6\sqrt{2}}{2} = 3\sqrt{2}$
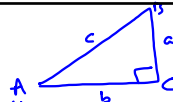
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30 - 60 - 90

Shorter leg = b

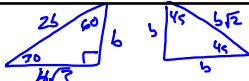Longer leg = $b\sqrt{3}$

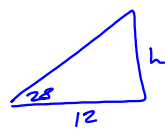Hypotenuse = 2b

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$b\sqrt{3} = 4$

$b = \frac{4}{\sqrt{3}}$

Trig

$\sin = \dfrac{\text{opposite}}{\text{hypotenuse}}$

$\cos = \dfrac{\text{adjacent}}{\text{hypotenuse}}$

$\tan = \dfrac{\text{opposite}}{\text{adjacent}}$

$\sin A = \dfrac{a}{c}$ $\sin B = \dfrac{b}{c}$

$\cos A = \dfrac{b}{c}$ $\cos B = \dfrac{a}{c}$

$\tan A = \dfrac{a}{b}$ $\tan B = \dfrac{b}{c}$

	30	45	60
sin	$\dfrac{b}{2b} = \dfrac{1}{2}$	$\dfrac{b}{b\sqrt{2}} = \dfrac{1}{\sqrt{2}}$	$\dfrac{b\sqrt{3}}{2b} = \dfrac{\sqrt{3}}{2}$
cos	$\dfrac{\sqrt{3}}{2}$	$\dfrac{1}{\sqrt{2}}$	$\dfrac{1}{2}$
tan	$\dfrac{1}{\sqrt{3}}$	1	$\sqrt{3}$

$\tan 28 = \dfrac{h}{12}$

$12 \tan 28 = h$