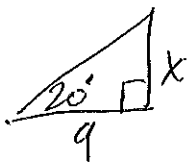
Tangent Ratio

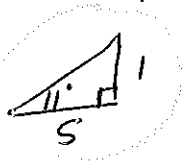
1/30

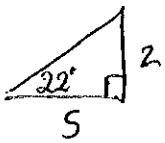
Ex: How do we solve for X?

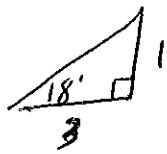


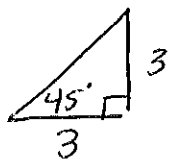
Slope ratios and angles

Certain slope angles produce slope triangles with special ratio.





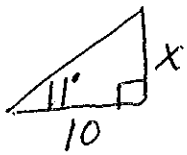




Slope ratio: $\frac{1}{5}$ $\frac{2}{5}$ $\frac{1}{3}$ $\frac{3}{3}$

How do we use it?

(ex) Solve for x

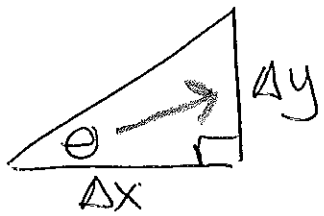


$X = 2$ because $\frac{2}{10} = \frac{1}{5}$

What if a slope angle does not have a special ratio? what do we use?

Tangent Ratio = it helps us find the slope ratio ($\frac{\Delta y}{\Delta x}$) of an angle.

$$\tan\theta = \frac{\Delta y}{\Delta x}$$

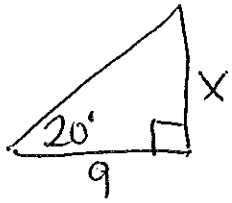


Δy is always opposite of θ.

θ means unknown angle. It is called "Theta"

How do we use this?

(ex)



$\theta = 20°$

$\Delta y = x$

$\Delta x = 9$

$(9)\tan 20° = \frac{x}{9}(9)$

$9 \cdot \tan 20° = x$

$X \approx 3.28$

Be sure calculator is set to "degree mode"

Summary