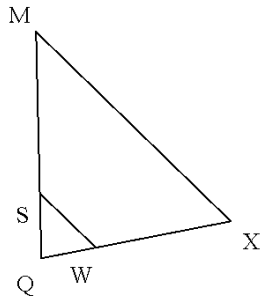
NAME:

DATE:

Mr. Nockles

More Rotation Practice

1) In the diagram below of $\triangle QMX$, $\overline{SW}$ is paralel to $\overline{MX}$. If $QS = 12, SM = 30$, and QW is 15 units shorter than WX, find the measure of QW .



ANSWERS

1801

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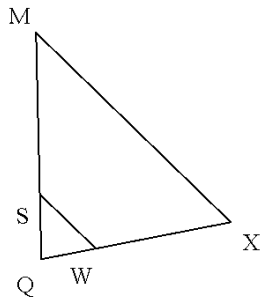

$\frac{QW}{WX}$	$=$	$\frac{QS}{SM}$	**If a line passes through two sides of a triangle and is parallel to the third side, then it divides the other two sides proportionally.**
$\frac{x\ -\ 15}{x}$	$=$	$\frac{12}{30}$	Substitute.
$\frac{x\ -\ 15}{x}$	$=$	$\frac{2}{5}$	Simplify.
$(5)(x\ -\ 15)$	$=$	$(x)(2)$	Rewritten, equivalent form (after multiplying by the reciprocals of each denominator on both sides.)
$5x\ -\ 75$	$=$	$2x$	Simplify.
$\underline{-2x}$		$\underline{-2x}$	Additive inverse
$3x\ -\ 75$	$=$	0	Simplify
$\underline{+75}$		$\underline{+75}$	Additive inverse
$3x$	$=$	75	Simplify
$x\ -\ 15$	$=$	$(25) - 15$	Plug in 25.
$(25) + (-15)$	$=$	10	Evaluate.