Algebra 2 | Fri. 5-17-13 | Class Notes

(40) Geometric Series

$$\sum_{i=1}^{7} 2(-2)^{i-1} = \underbrace{2}_{a_1} + \underbrace{(-4)}_{a_2} \ldots \quad a_7$$

$$r = \frac{-4}{2} = -2$$

N = terms $\Rightarrow 7$

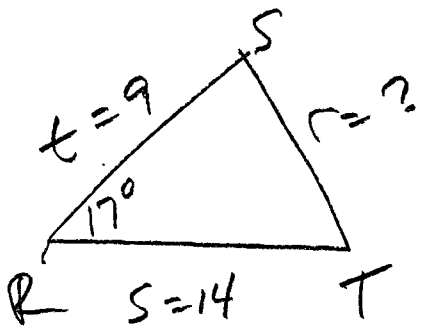
$$S_N = a_1 \frac{1-r^N}{1-r}$$

$$S_7 = 2\left[\frac{1-(-2)^7}{1-(-2)}\right] = 2\left[\frac{1+128}{3}\right]$$

$$S_N = 86$$

(50) $\triangle RST$, $s = 14$, $m\angle R = 17^\circ$, $t = 9$

find r



SAS $\Rightarrow$ LOC

$r^2 = 14^2 + 9^2 - 2(14)(9)\cos 17$

$r^2 = 196 + 81 - 252(.9563)$

$r^2 = 277 - 240.9876$

$r^2 = 36.0124$

$r = 6.001 \approx \boxed{6.0}$

(70) $A_\Delta = ?$ $\triangle HPK$ $p = 9$,
$k = 14$
$h = 13$

Nearest $\frac{1}{10}$

Perimeter = 36.
$\therefore s = 18$

$$A_\Delta = \sqrt{s(s-p)(s-k)(s-h)}$$
$$= \sqrt{18(18-9)(18-14)(18-13)}$$
$$= \sqrt{18(9)(4)(5)}$$
$$= \sqrt{3240}$$
$$A = 56.920 \approx \boxed{56.9 \text{ units}^2 = A}$$

(153) Classify:

$$-x^2 - 6x + y - 9 = 0$$

parabola

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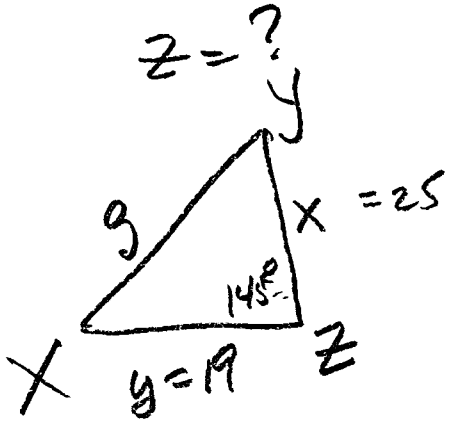
(57) $\triangle ZXY$, $y = 19$, $x = 25$ $m\angle Z = 145^\circ$



REF

$\cos 145$

$$z^2 = 19^2 + 25^2 - 2(19)(25)(-\cos 35)$$

$$z^2 = 361 + 625 + 950(.8192)$$

$$z^2 = 1764.184$$

$$z = 42.0$$