

LOCUS TEST

Name: \_\_\_\_\_

① What is the length of the line segment with endpoints  $(-6, 4)$  and  $(2, -5)$ ?

- 1)  $\sqrt{13}$
- 2)  $\sqrt{17}$
- 3)  $\sqrt{72}$
- ④)  $\sqrt{145}$

$$= \sqrt{(x-x)^2 + (y-y)^2}$$

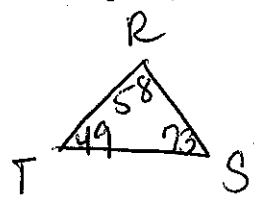
$$= \sqrt{(-6-2)^2 + (4-(-5))^2} = \sqrt{(-8)^2 + (9)^2}$$

$$= \sqrt{64 + 81}$$

$$= \sqrt{145}$$

② In  $\triangle RST$ ,  $m\angle R = 58$  and  $m\angle S = 73$ . Which inequality is true?

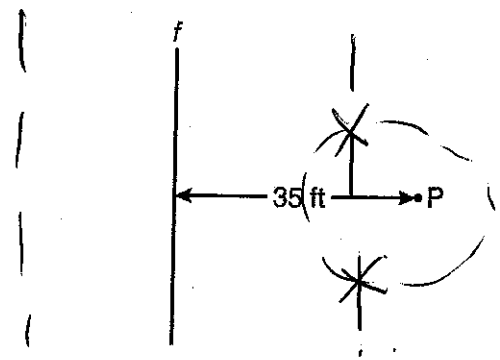
- 1)  $RT < TS < RS$
- 2)  $RS < RT < TS$
- 3)  $RT < RS < TS$
- ④)  $RS < TS < RT$



$L \rightarrow G$

$RS < ST < RT$

③ A man wants to place a new bird bath in his yard so that it is 30 feet from a fence,  $f$ , and also 10 feet from a light pole,  $P$ . As shown in the diagram below, the light pole is 35 feet away from the fence.



How many locations are possible for the bird bath?

- 1) 1
- ②) 2
- 3) 3
- 4) 0