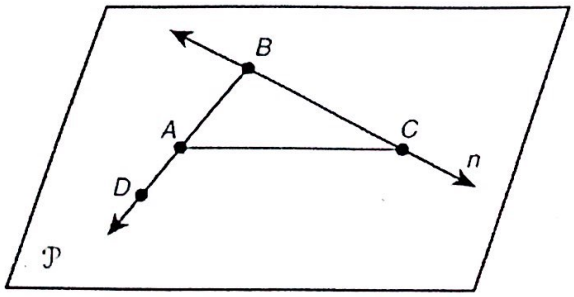
Basics of Geometry Review Homework

Name KEY



1. Name this plane in as many ways as you can.

plane P | plane ABC CAB ACB CBA BAC BCA | plane ACD DAC ADC DCA CAD CDA | plane BCD DBC BDC CBD CDB

2. Name a ray in this picture that has endpoint B.

$\overrightarrow{BC}$, $\overrightarrow{BA}$ or $\overrightarrow{BD}$

3. Name a line in this picture.

$\overleftrightarrow{BC}$, ~~$\overrightarrow{BA}$ or $\overrightarrow{BD}$ or $\overrightarrow{AD}$~~

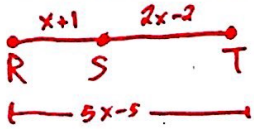
Not lines

4. Which names a pair of opposite rays (rays pointing in opposite directions)?

A $\overline{AB}$ and $\overline{BG}$ C $\overline{AB}$ and $\overline{BA}$

B $\overline{BC}$ and $\overline{AB}$ D $\overline{BD}$ and $\overline{BE}$

5. R, S, and T are collinear, and S is between R and T. If $RS = x + 1$, $ST = 2x - 2$, and $RT = 5x - 5$, find RT.



$(x+1) + (2x-2) = (5x-5)$

$3x - 1 = 5x - 5$

$-1 = 2x - 5$

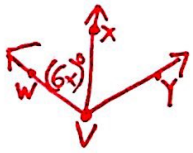
$4 = 2x$

$2 = x$

$RT = 5(2) - 5$

$RT = 5$

6. $\overrightarrow{VX}$ bisects $\angle WVY$, $m\angle WVX = (6x)°$, and $m\angle WVY = (16x - 42)°$.
What is the value of x?



$6x = \frac{1}{2}(16x - 42)$

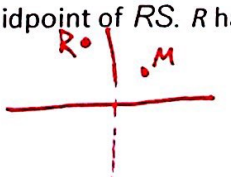
$6x = 8x - 21$

$-8x \quad -8x$

$-2x = -21$

$x = 10.5$

7. M is the midpoint of $\overline{RS}$. R has coordinates $(-2, 10)$, and M has coordinates $(3, 5)$. What are the coordinates of S?



$(8, 0)$

$(-2, 10) \xrightarrow[-5(y)]{+5(x)} (3, 5) \xrightarrow[-5(y)]{+5(x)} (8, 0)$

Snooker is a kind of pool or billiards played on a 6-foot-by-12-foot table.
The side pockets are halfway down the rails (long sides).
(use a calculator for these problems)

8. Find the distance, to the nearest tenth of a foot, diagonally across the table from corner pocket to corner pocket.

$d \approx 13.4$ ft

$6^2 + 12^2 = x^2$

$36 + 144 = x^2$

$180 = x^2$

$x = \sqrt{180}$

9. Find the distance, to the nearest tenth of an inch, diagonally across the table from corner pocket to side pocket.

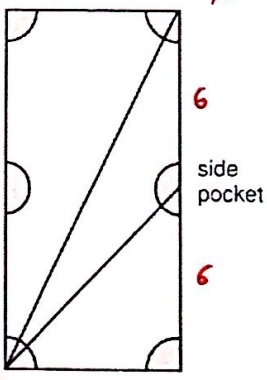
$d \approx 8.5$ ft ≈ 101.8 in

$6^2 + 6^2 = x^2$

$36 + 36 = x^2$

$72 = x^2$

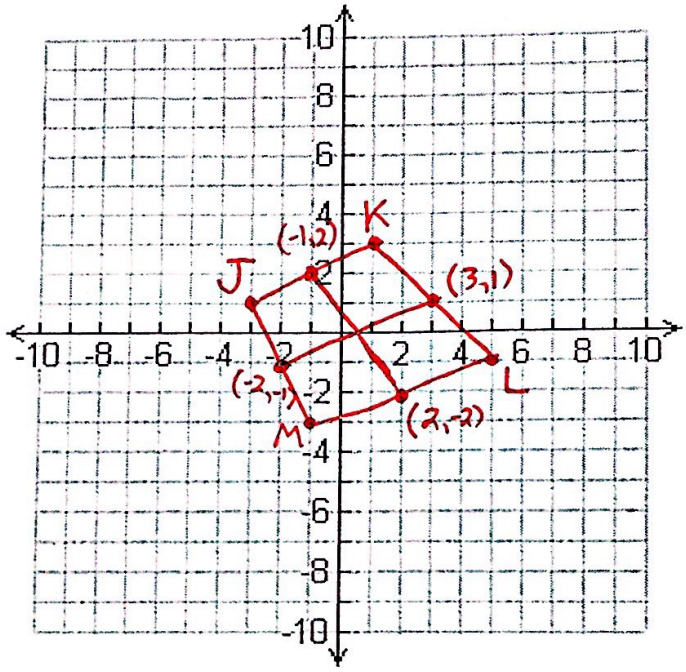
$x = \sqrt{72}$



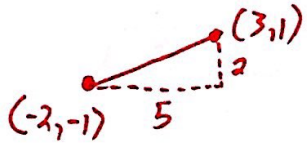
Turn to the back!

10. A city planner designs a park that is a quadrilateral with vertices at J (−3, 1) , K (1, 3) , L (5, −1) , and M (−1, −3) . There is an entrance to the park at the midpoint of each side of the park. A straight path connects each entrance to the entrance on the opposite side. Assuming each unit of the coordinate plane represents 10 meters, what is the total length of the paths to the nearest meter?

(You may use a calculator for this problem!)



Path 1:



$5^2 + 2^2 = d^2$

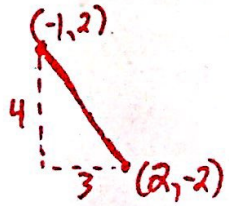
$29 = d^2$

$d \approx 5.4$ units

$\times 10$

54 meters

Path 2:



$4^2 + 3^2 = d^2$

$16 + 9 = d^2$

$25 = d^2$

$5 = d$

$5 \text{ units} \cdot \frac{10 \text{ meters}}{\text{unit}} = 50 \text{ meters}$

$54 + 50 =$ **104 meters**