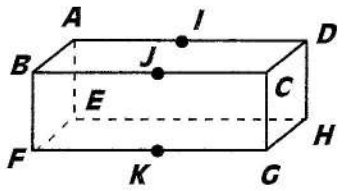
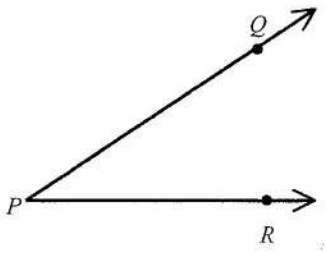
Semester Exam Review 2011 Geometry Name_____

1. Which of the following are noncollinear?



[A] *F, K, G* [B] *I, J, K* [C] *B, J, C* [D] *A, I, D*

2. Which does NOT name the angle below?

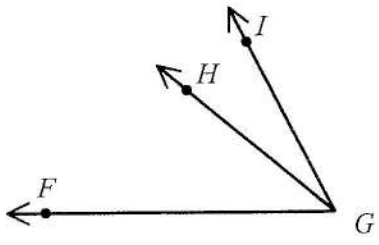


[A] $\angle RPQ$ [B] $\angle P$ [C] $\angle PQR$ [D] $\angle QPR$

3. One side of a parallelogram has a length of 4.1 yards while another side has a length of 56.7 yards. What is the perimeter of the parallelogram?

[A] 121.6 yd [B] 60.8 yd [C] 64.9 yd [D] 232.47 yd

4. If $m\angle IGH = 2x+9$, $m\angle FGH = 6x-2$, and $m\angle IGF = 63$, find $m\angle IGH$ and $m\angle FGH$.



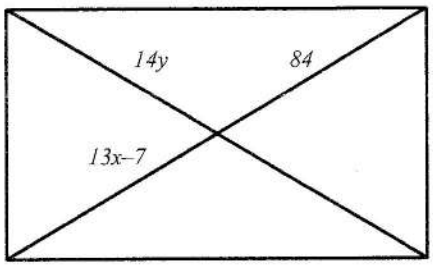
[A] $m\angle IGH = 40°$ and $m\angle FGH = 23°$

[B] $m\angle IGH = 23°$ and $m\angle FGH = 40°$

[C] $m\angle IGH = 46°$ and $m\angle FGH = 17°$

[D] $m\angle IGH = 17°$ and $m\angle FGH = 46°$

5. Find the values of x and y if the quadrilateral is a rectangle.



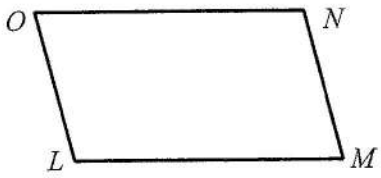
[A] $x = 12, y = 7$ [B] $x = 7, y = 12$

[C] $x = 6, y = 7$ [D] $x = 7, y = 6$

6. If $\Delta ABC \cong \Delta DEF$, $AB = 3$ feet, $m\angle B = 19°$, and $m\angle F = 49°$, which of the following statements is false?

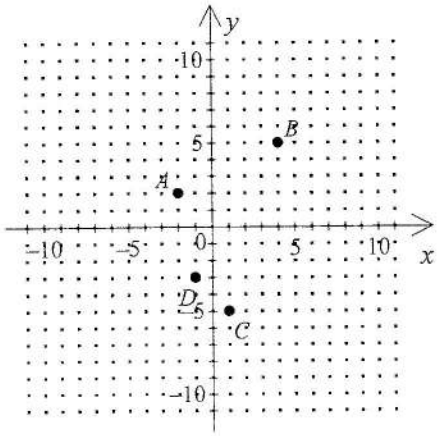
[A] $\angle B \cong \angle E$ [B] $BC = DF$ [C] $ED = 3$ ft [D] $AC = DF$

7. If $ON = 5x - 2$, $LM = 6x + 6$, $NM = x - 5$, and $OL = 5y - 5$, find the values of x and y for which $LMNO$ must be a parallelogram.



[A] $x = \frac{1}{4}$; $y = \frac{5}{4}$ [B] $x = -8$; $y = -\frac{8}{5}$ [C] $x = \frac{1}{8}$; $y = \frac{5}{8}$ [D] $x = -4$; $y = -\frac{4}{5}$

8. Name the coordinates of the points A, B, C, and D.



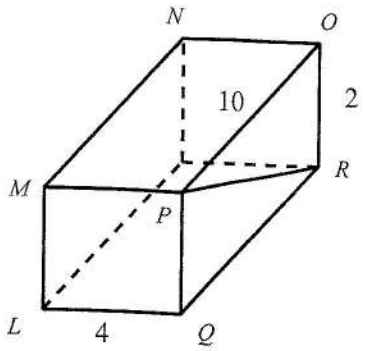
[A] $A(2, -2), B(5, 4), C(-5, 1), D(-3, -1)$ [B] $A(2, -2), B(4, 5), C(-5, 1), D(-1, -3)$

[C] $A(-2, 2), B(4, 5), C(1, -5), D(-1, -3)$ [D] $A(-2, 2), B(5, 4), C(1, -5), D(-3, -1)$

9. A photo lab technician has a rectangular display ad that is 6 centimeters by 18 centimeters. The ad needs to be enlarged so the longer side is 27 centimeters. How long will the shorter side be after the enlargement?

[A] 15 cm [B] 33 cm [C] 81 cm [D] 9 cm

10. Find the distance between points R and P.



[A] 2 [B] 10 [C] $2\sqrt{10}$ [D] $2\sqrt{26}$

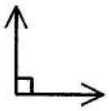
11. Which of the following is an obtuse angle?

[A]

[B]

[C]

[D]

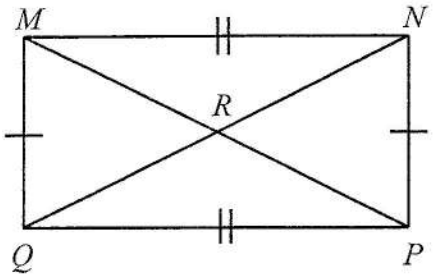


12. Which statement is true?

[A] All quadrilaterals are parallelograms. [B] All quadrilaterals are squares.

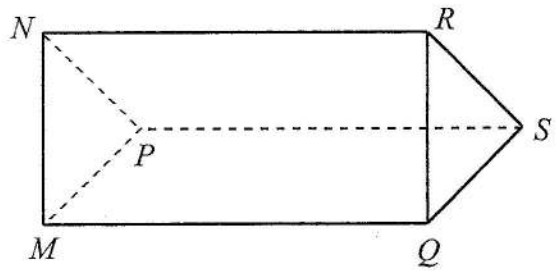
[C] All parallelograms are quadrilaterals. [D] All rectangles are squares.

13. Which postulate can be used to prove that $\Delta QMN \cong \Delta NPQ$?



[A] SSS [B] The triangles cannot be proved to be congruent. [C] ASA [D] SAS

14. Which pair of planes in the figure below appear to be parallel?



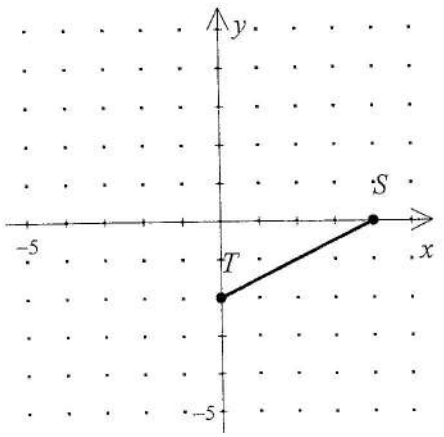
[A] plane *NMQ* and plane *PMQ* [B] plane *MNP* and plane *QRS*

[C] plane *NPS* and plane *NMQ* [D] plane *NPS* and plane *MPS*

15. $\angle J$ and $\angle M$ are base angles of isosceles trapezoid *JKLM*. If $m\angle J = 17x + 5$, $m\angle K = 16x + 6$, and $m\angle M = 14x + 10$, find the value of x.

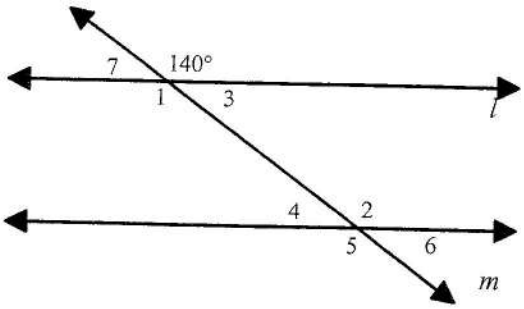
[A] 2 [B] 5 [C] $\frac{5}{3}$ [D] 1

16. Find the midpoint of $\overline{ST}$.



[A] (2, –1) [B] (–2, 1) [C] (–1, 2) [D] (1, –2)

17. Find the measures of $\angle 1$ and $\angle 3$. The lines l and m are parallel.



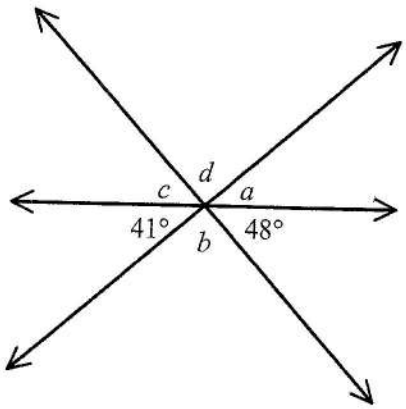
[A] The measure of $\angle 1$ is $40°$; the measure of $\angle 3$ is $140°$.

[B] The measure of $\angle 1$ is $140°$; the measure of $\angle 3$ is $40°$.

[C] The measure of $\angle 1$ is $40°$; the measure of $\angle 3$ is $40°$.

[D] The measure of $\angle 1$ is $140°$; the measure of $\angle 3$ is $140°$.

18. Find the unknown angle measures.



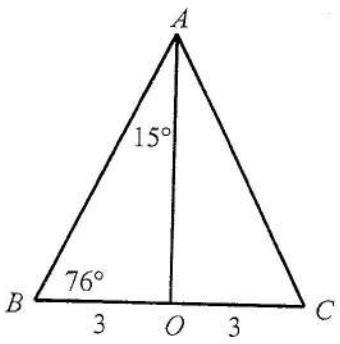
[A] $m\angle a = 41°, m\angle b = 91°, m\angle c = 48°, m\angle d = 91°$

[B] $m\angle a = 48°, m\angle b = 91°, m\angle c = 48°, m\angle d = 91°$

[C] $m\angle a = 48°, m\angle b = 91°, m\angle c = 41°, m\angle d = 91°$

[D] $m\angle a = 41°, m\angle b = 91°, m\angle c = 41°, m\angle d = 91°$

19. Which is the appropriate symbol to place in the blank? (not drawn to scale)
AB __ AC



[A] = [B] < [C] > [D] not enough information

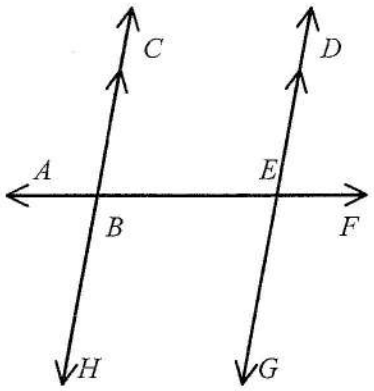
20. There is a law stating that "the ratio of the width to length for the American flag should b 10 to 19". Which one of the following dimensions is not in the correct ratio for the flag?

[A] 120 in. by 228 in. [B] 60 ft by 114 ft [C] 30 in. by 57 in. [D] 30 ft by 60 ft

21. Locate the numbers –15 and 4 on a number line and find the distance between them.

[A] 11 [B] –19 [C] 19 [D] –11

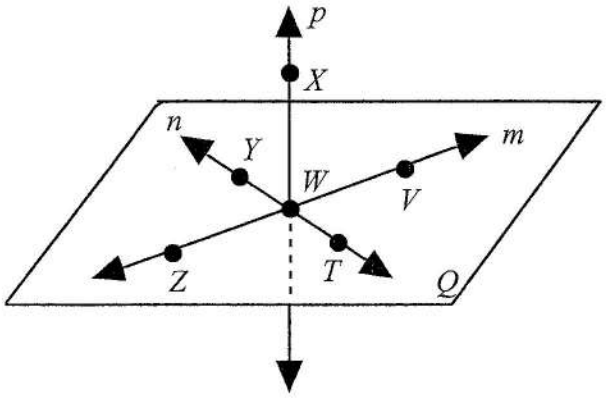
22. $m\angle ABC = 101°$. Which statement is false?



[A] $m\angle DEF = 79°$ [B] $\angle ABH$ and $\angle AEG$ are alternate exterior angles.

[C] $\angle HBF$ and $\angle AED$ are alternate interior angles. [D] $m\angle GEF = 101°$

23. Which line in the figure below contains point W?



[A] line p [B] all of these [C] line m [D] line n

24. Identify the true statement.

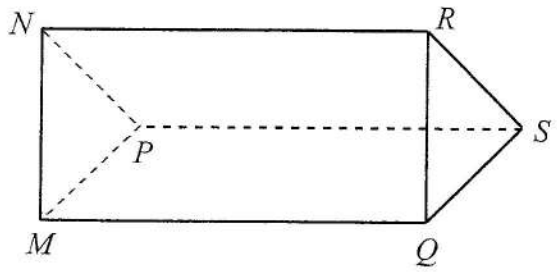
[A] If a quadrilateral is a rectangle, then consecutive angles are supplementary.

[B] If a quadrilateral is a parallelogram , then the quadrilateral is a rectangle.

[C] If a parallelogram is equilateral, then the parallelogram is a rectangle.

[D] If the diagonals of a quadrilateral are congruent, then the quadrilateral is a rectangle.

25. Which pair of segments in the figure below are skew?



[A] $\overline{RS}$ and $\overline{NR}$ [B] $\overline{PM}$ and $\overline{SQ}$

[C] $\overline{NM}$ and $\overline{PS}$ [D] There are no skew segments in this figure.

26. Two sides of a triangle have sides 14 and 20. The length of the third side must be greater than _____ and less than ____.

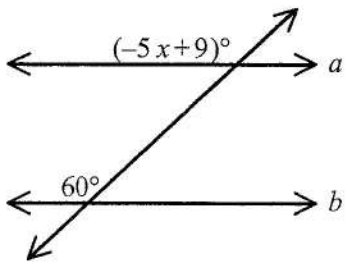
[A] 14, 20 [B] 5, 35 [C] 13, 21 [D] 6, 34

27. List the sides of ΔABC in order from shortest to longest.
$m\angle A = 9x - 2$, $m\angle B = 2x - 9$, and $m\angle C = 86 - 4x$

[A] $\overline{AC}$; $\overline{BC}$; $\overline{AB}$ [B] $\overline{BC}$; $\overline{AB}$; $\overline{AC}$

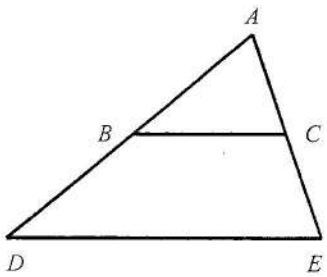
[C] $\overline{AC}$; $\overline{AB}$; $\overline{BC}$ [D] $\overline{AB}$; $\overline{AC}$; $\overline{BC}$

28. What must be the value of x for a to be parallel to b?



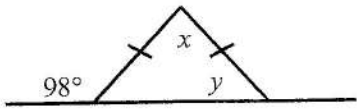
[A] $-\frac{5}{69}$ [B] $-\frac{5}{51}$ [C] $-\frac{51}{5}$ [D] $-\frac{69}{5}$

29. In the figure shown, $\overline{BC} \parallel \overline{DE}$, $AB = 2$ yards, $BC = 8$ yards, $AE = 28$ yards, and $DE = 32$ yards. Find CE.



[A] 7 yd [B] 21 yd [C] 6 yd [D] 8 yd

30. Find the values of x and y.



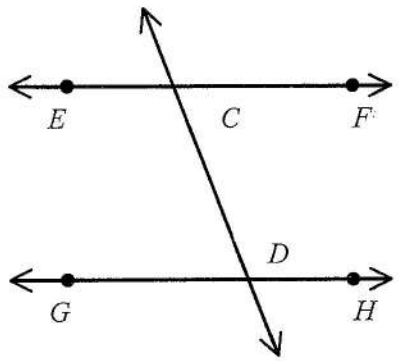
[A] $x = 16°;\ y = 98°$ [B] $x = 16°;\ y = 82°$

[C] $x = 82°;\ y = 98°$ [D] $x = 82°;\ y = 62°$

31. Find the distance between points $P(-1, 1)$ and $Q(-5, 5)$.

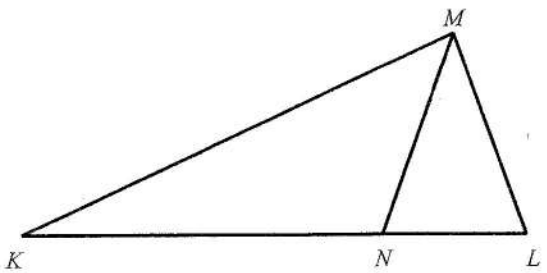
[A] 10 [B] $2\sqrt{26}$ [C] $6\sqrt{2}$ [D] $4\sqrt{2}$

32. Find the value of x that will allow you to prove that $\overleftrightarrow{EF} \parallel \overleftrightarrow{GH}$ if $m\angle C = (2x+139)°$ and $m\angle D = (4x+11)°$.



[A] 6 [B] 41 [C] 12 [D] 5

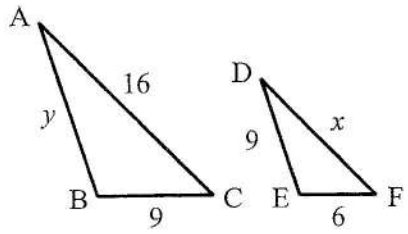
33. Name the angles of ΔKNM.



[A] $\angle K$, $\angle KNM$, $\angle NMK$ [B] none of these

[C] $\angle L$, $\angle LMN$, $\angle MNL$ [D] $\angle K$, $\angle KLM$, $\angle LMK$

34. Given that $\Delta ABC \sim \Delta DEF$, solve for x and y.



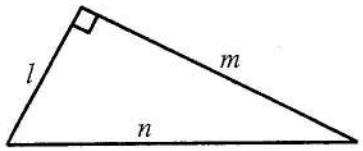
[A] $x = 11.7, y = 14.5$ [B] $x = 11.7, y = 13.5$

[C] $x = 10.7, y = 14.5$ [D] $x = 10.7, y = 13.5$

35. In rhombus $ABCD$, $AB = 16$ and $AC = 18$. Find BD to the nearest tenth.

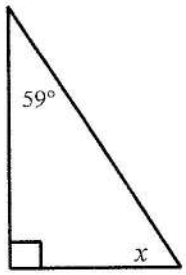
[A] 16.5 [B] 26.5 [C] 24.2 [D] 33.9

36. Decide if the triangle is right, acute, or obtuse. If it is right, name the hypotenuse.



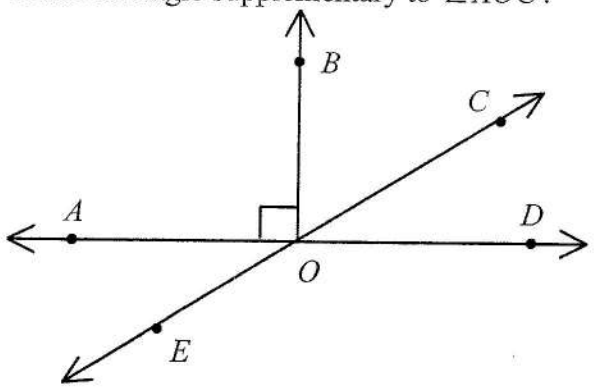
[A] acute [B] right, m [C] right, n [D] obtuse

37. Find the value of x.



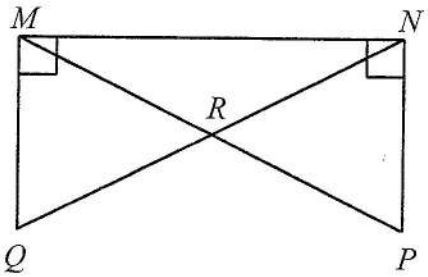
[A] 62° [B] 31° [C] 149° [D] 121°

38. Name an angle supplementary to $\angle AOC$.



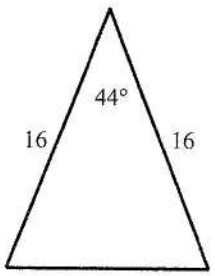
[A] $\angle COD$ [B] $\angle AOD$ [C] $\angle BOD$ [D] $\angle BOE$

39. Which postulate can be used to prove that $\Delta QMN \cong \Delta PNM$ if $\angle MNQ \cong \angle NMP$?



[A] ASA [B] SSS [C] The triangles cannot be proved to be congruent. [D] SAS

40. What is the measure of each base angle of an isosceles triangle if its vertex angle measures 44 degrees and its 2 congruent sides measure 16 units?



[A] 46° [B] 68° [C] 136° [D] 44°