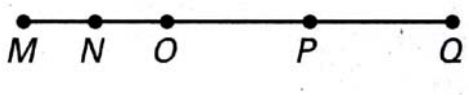
GEOMETRY HONORS MIDTERM REVIEW

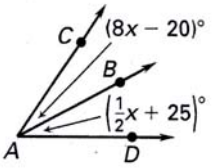
1. In $\triangle ABC$, $\overline{BA} \cong \overline{BC}$. $\angle CBD$ is an exterior angle of $\triangle ABC$. What do you know about the other angles.

2. Find the length of $\overline{NP}$. MQ = 70, MN = 10, MN=NO, and OP = PQ.

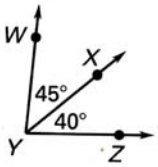


3. If RA = 2x and AK = 6x + 8, find the coordinate of the midpoint of AK.

4. $\overrightarrow{AB}$ bisects $\angle CAD$. Find the value of x.



5. Find the m$\angle$WYZ.



6. $\triangle QRS \sim \triangle XYZ$, QR =9, RS = 12, QS = 14, AND YZ =18. What is the value of XY.

7. Two angles $\angle 1$ and $\angle 2$ are complementary. If m$\angle 1$ is 27^0, what is m$\angle 2$?

8. Solve x - 7 = 10 , then what property applies to the required step.

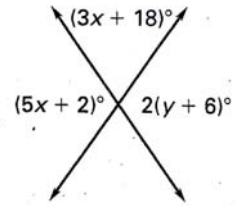
9. Which of the following statement is *not* true?

   If $x^2 = 25$, then x = 5

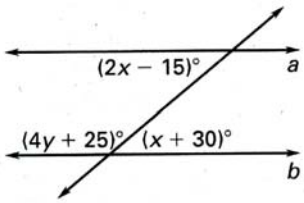
   If x = - 4 , then $x^2 \neq -16$

10. The perimeter of two similar hexagons are 180cm and 60cm, respectively. One side of the smaller hexagon is 10. Find the length of the corresponding side of the larger hexagon.

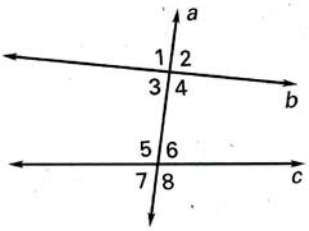
11. Solve for *x* and *y*.



12. What value of *x* and *y* would make the lines *a* and *b* parallel?



13. Use the diagram and describe:



a.Which angles are corresponding?

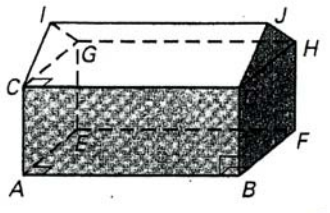
b. Which angles are alternate interior?

c. Which angles are alternate exterior?

d. Which angles are consecutive interior angles (same side)?

14. RING is a parallelogram. RI = x + 6, IN = 2x + 4, and NG = 3x. Find GR.

15. Name a line skew to $\overleftrightarrow{CG}$.



16. Define the following terms of a triangle and then draw and example of each:

(a) equiangular triangle

(b) equilateral triangle

(c) right triangle

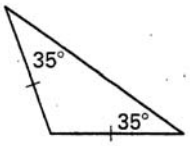
(d) acute triangle

(e) obtuse triangle

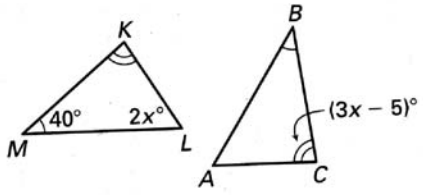
(f) isosceles triangle

(g) scalene triangle

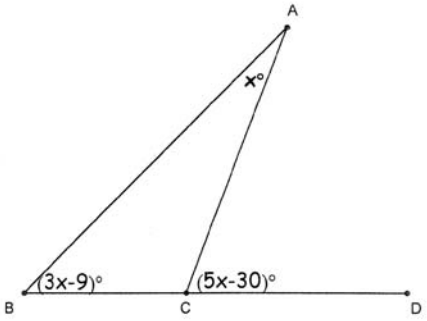
17. Classify the triangle by its side and angle _____.



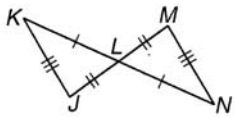
18. Given $\angle M \cong \angle B$ and $\angle K \cong \angle C$, find the value of x.



19. Find the m $\angle ACB$?

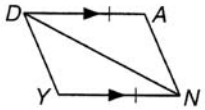


20. Which triangles are congruent in the figure?



21. Given $\overline{DA} \parallel \overline{YN}$; $\overline{DA} \cong \overline{YN}$

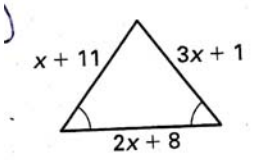
Prove: $\angle NDY \cong \angle DNA$



Statement	Reasons
1. $\overline{DA} \parallel \overline{YN}$	1. Given
2. $\angle ADN \cong \angle YND$	2. Alt. int. $\angle$s are $\cong$
3. $\overline{DA} \cong \overline{YN}$	3. Given
4. $\overline{DA} \cong \overline{DN}$	4. Reflexive Property
5. $\Delta NDY \cong \Delta DNA$	5. ?
6. $\angle NDY \cong \angle DNA$	6. ?

22. What is a contrapostive: *If a triangle is equilateral, then it is equiangular*.

23. What is the value of x?



24. Define the following terms of a triangle and then draw examples of each term on a given triangle;

(a) median

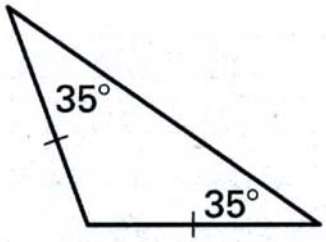
(b) angle bisector

(c) altitude

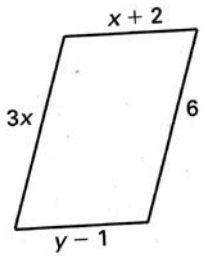
(d) perpendicular bisector

(e) midsegment

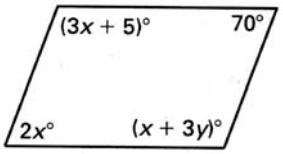
25. The triangle can be classified as:



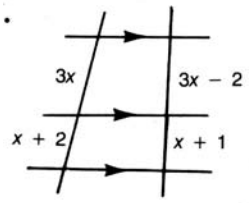
26. What value of x and y will make the polygon a parallelogram?



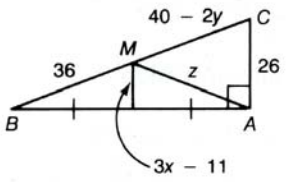
27. What value of x and y will make the polygon a parallelogram?



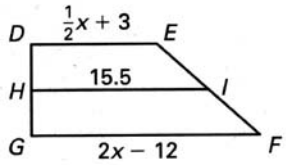
28. Find the value of x.



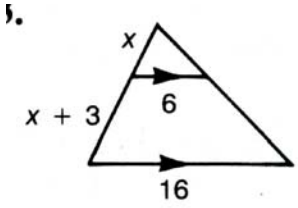
29. The triangle ∆ABC, M is the midpoint of $\overline{BC}$. Find the value of the *x*, *y* and *z*.



30. DEFG is a trapezoid. HI = 15.5. Find the value of x.

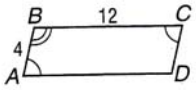


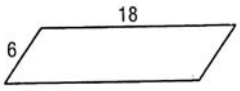
31. Find the value of x

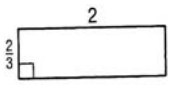


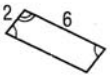
32. Name the properties common to be a parallelogram.

33. Find the polygon that is similar to ABCD.



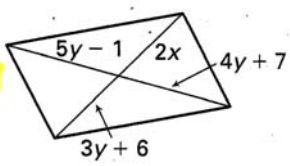
(A) 

(B) 

(C) 

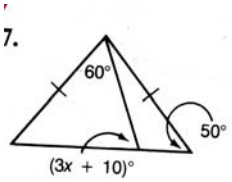
(D) 

34. What are the values in the given parallelogram of *x* and *y*?

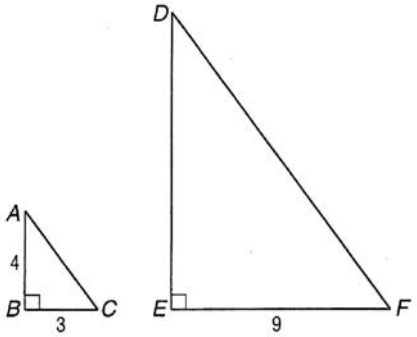


35. What is the sum of the measures of the interior angles of a convex pentagon?

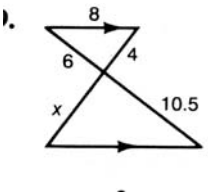
36. Find the value of x.



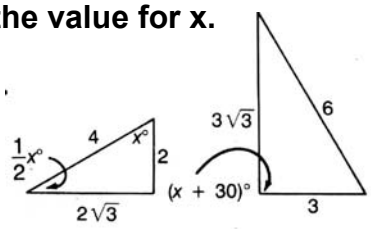
37. ∆ABC is similar to ∆DEF. Use the given measures and properties of similar triangles to find the perimeter of ∆DEF.



38. Find the value of x.



39. The triangles are similar. What is the value for x.



40. Find the value of x.

$$\frac{x-2}{4} = \frac{x}{8}$$

Geometry Review Answers

1. It is equal to $\angle A + \angle B$ or $2\angle A$ or $2\angle B$.
2. 35
3. 5
4. 6
5. 85^0
6. 13.5
7. 63^0
8. addition property of equality
9. $x^2 = 25$, $x = 5$
10. 30
11. $x = 20$; $y = 45$
12. $x = 45$; $y = 20$
13. a. 1 & 5; 2 & 6; 3 & 7; 4 & 8
    b. 3 & 6; 4 & 5
    c. 2 & 7; 1 & 8
    d. 3 & 5; 4 & 6
14. 10
15. IJ & AB
16. a. A triangle with all angles congruent.
    b. A triangle with all sides congruent.
    c. A triangle with just one right angle.
    d. A triangle with three acute angles.
    e. A triangle with one obtuse angle.
    f. A triangle with at least two side congruent.
    g. A triangle with no sides equal.
17. obtuse, isosceles
18. 29
19. 105
20. $\triangle KJL \cong \triangle NML$

21. SAS; CPCTC

22. If a triangle is not equiangular, then it is not equilateral.

23. 5

24. **a. A segment whose endpoints are a vertex of the triangle and the midpoint of the opposite side.**

b. A bisector of an angle of the triangle.

c. The perpendicular segment from a vertex of a triangle to the opposite side or to the line that contains the opposite side.

d. A line, ray, or segment that is perpendicular to a side of a triangle at the midpoint of the side.

e. A segment that connects the midpoints of two sides of a triangle.

25. Obtuse, Isosceles

26. x = 2; y = 5

27. x = 35; y = 20

28. 4

29. x = 8; y = 2; z = 36

30. 16

31. 4.5

32. **a. Quadrilateral with both pairs of opposite sides parallel**

b. Opposite sides of a parallelogram are congruent.

c. Opposite angles of a parallelogram are congruent.

d. Diagonals of a parallelogram are congruent.

There are two more, but they are not in this book.

33. C

34. X = 15; Y = 8

35. 540

36. 20

37. 12

38. 7

39. 60

40. 4