

Geometry
1st Semester Final Review

Name: Key

1. "If M is the midpoint of \overline{PQ} , then $MQ = \frac{1}{2}PQ$ ". The following statement:

"If $MQ = \frac{1}{2}PQ$, then M is the midpoint of \overline{PQ} " is the

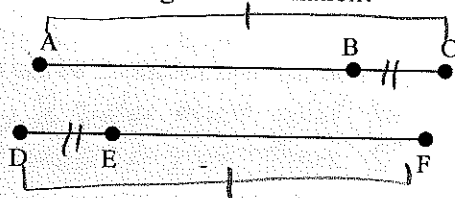
- A contrapositive
- B converse**
- C inverse
- D conclusion

converse = 'flipped'
inverse = 'negative'
contrapositive = 'flipped and negative'
conclusion = the part after the 'then'

(no match)

Which Conjecture is always true based on the given information?

Given: $\overline{AC} \cong \overline{DF}$
 $\overline{BC} \cong \overline{DE}$



- A** $\overline{AB} \cong \overline{EF}$
- B $\overline{AB} \cong \overline{DE}$
- C $\overline{BC} \cong \overline{EF}$
- D $\overline{AC} \cong \overline{EF}$

(Subtraction property)

3. Identify the counterexample for the conjecture *All prime numbers are odd.*

- A** 2 is a prime number
- B 5 is a prime number
- C 89 is a prime number
- D none of these

A counterexample is an example that shows the conjecture is false.

4. Find the coordinates of the midpoint of \overline{MN} for $M(8, 8)$ and $N(-2, 2)$.

- A (5, 5)
- B (5, 3)
- C** (3, 5)
- D (8, 0)

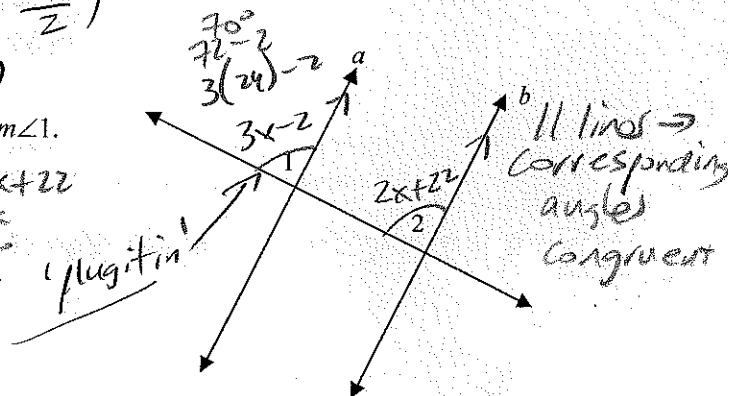
$M = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$ (midpoint formula)
 $\left(\frac{8 + (-2)}{2}, \frac{8 + 2}{2} \right)$
 $(3, 5)$

5. If $a \parallel b$, $m\angle 1 = 3x - 2$, and $m\angle 2 = 2x + 22$, then find $m\angle 1$.

- A 24°
- B 68°
- C** 70°
- D 72°

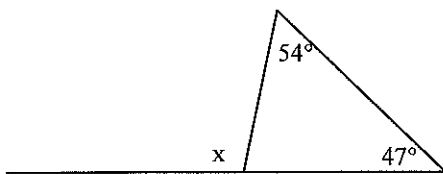
$\frac{124}{x3}$
 $\frac{72}{72}$

$3x - 2 = 2x + 22$
 $-2x \quad -2x$
 $x - 2 = 22$
 $+2 \quad +2$
 $x = 24$



6. Find the value of x .

- A 7°
- B 47°
- C 79°
- D 101°**



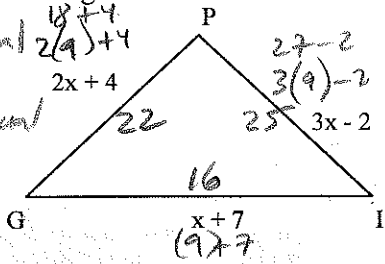
$$x = 54 + 47$$

$$\begin{array}{r} 54 \\ + 47 \\ \hline 101 \end{array}$$

(exterior angle = sum of remote interior angles)

7. The perimeter of $\triangle PIG$ is 63. By solving for x determine whether $\triangle PIG$ is isosceles, scalene, or equilateral

- A isosceles - 2 sides equal
- B scalene - no sides equal**
- C equilateral - all sides equal



$$(2x+4) + (3x-2) + (x+7) = 63$$

$$2x+4 + 3x-2 + x+7 = 63$$

$$6x + 9 = 63$$

$$\frac{-9}{6} \quad \frac{-9}{6}$$

$$6x = 54$$

$$\frac{6x}{6} = \frac{54}{6}$$

$x = 9$ (plus it in)

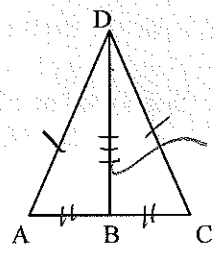
(any 2 sides must add to number bigger than 3rd side)

8. Determine which set of numbers can be the measures of the sides of a triangle.

- A 2, 6, 3 X
- B 3, 10, 13 X
- C 4, 6, 1 X
- D 5, 7, 3** ✓

9. Given $\overline{AD} \cong \overline{CD}$ and \overline{DB} bisects \overline{AC} . By what method is $\triangle ABD \cong \triangle CBD$?

- A SAS
- B ASA
- C SSS**
- D SSA



reflexive property

10. Find the sum of the measures of the interior angles of a pentagon. $n = 5$

- A 72°
- B 108°
- C 360°
- D 540°**

$$S_i = 180(n-2)$$

$$180(5-2)$$

$$180(3)$$

$$\frac{2}{180} \times \frac{3}{540}$$

11. Jack and Jill are going to the movies. They can choose from movie A, movie B and movie C, but both of them will go to the same movie. What is the sample space for this situation?

- A {AA, AB, AC, BA, BB, BC, CA, CB, CC}
- B {AB, AC, BA, BC, CA, CB}
- C {AA, BB, CC}**
- D {AB, CA}

'sample space' = listing of all possible outcomes.

12. Suppose you must select a committee of 3 from 10 people. Which of the following should you use?

Order doesn't matter = combination
(order matters = permutation)

- A Combination
- B Permutation
- C Probability
- D Pythagorean Theorem

13. There are 15 different books. How many groups of 6 can be selected?

- A 90
- B 720
- C 5005
- D 3603600

order doesn't matter = combination

$$C = \frac{n!}{r!(n-r)!}$$

$$C_{15,6} = \frac{15!}{6!(15-6)!} = \frac{15!}{6!9!} = \frac{15 \cdot 14 \cdot 13 \cdot 12 \cdot 11 \cdot 10 \cdot 9 \cdot 8 \cdot 7 \cdot 6 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1}{(6 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1) \cdot (9 \cdot 8 \cdot 7 \cdot 6 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1)} = \frac{35 \cdot 13 \cdot 11}{1 \cdot 1} = 5005$$

$$\begin{array}{r} 13 \\ 11 \\ \hline 13 \\ 13 \\ \hline 143 \\ 213 \\ \hline 715 \\ 143 \\ \hline 5005 \end{array}$$

14. Fifteen people are entered in a race. If there are no ties, in how many ways can the first two places come out?

- A 30
- B 105
- C 210
- D 420

order matters = permutation (boxes)

$$15 \times 14 = 210$$

1st place 2nd place

15. Observe these two algorithms for find the slope of the line with equation $3x + 4y = 12$

<p>Find two points on the line by substitution</p> <p>1st point: let $x = 0$; then</p> $3(0) + 4y = 12$ $4y = 12$ $y = 3$ <p>Therefore, one point is (0, 3)</p> <p>2nd point let $y = 0$; then</p> $3x + 4(0) = 12$ $3x = 12$ $x = 4$ <p>Therefore, another point is (4,0)</p> <p>The slope is</p> $\frac{0-3}{4-0} = -\frac{3}{4}$	<p>Transform equation $3x + 4y = 12$ into slope-intercept form $y = mx + b$</p> <p>Add $-3x$ to both sides:</p> $4y = -3x + 12$ <p>Divide both sides by 4:</p> $y = -\frac{3}{4}x + 4$ <p>Therefore, the slope of the line is $-\frac{3}{4}$</p>
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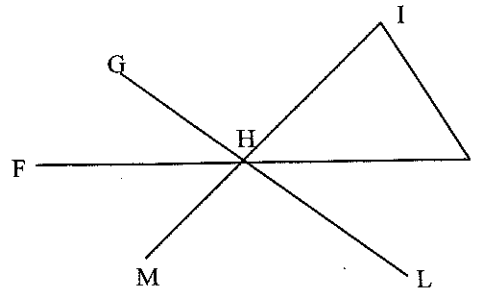
algorithm = procedure

These two algorithms are equivalent:

- A Always
- B Sometimes
- C Never

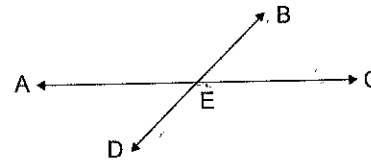
16. In the figure, what point is collinear to M and H?

- A F
- B I**
- C J
- D L



17. Given two intersecting lines as shown. What conclusions can you draw?

- A $m\angle AED = m\angle BEC$ ✓ (vert \angle s \cong)
- B $m\angle AED + m\angle DEC = 180$ ✓ (straight \angle)
- C $m\angle AEB$ and $m\angle DEC$ are vertical angles ✓
- D** all of these



18. What is the supplement of 65° ?

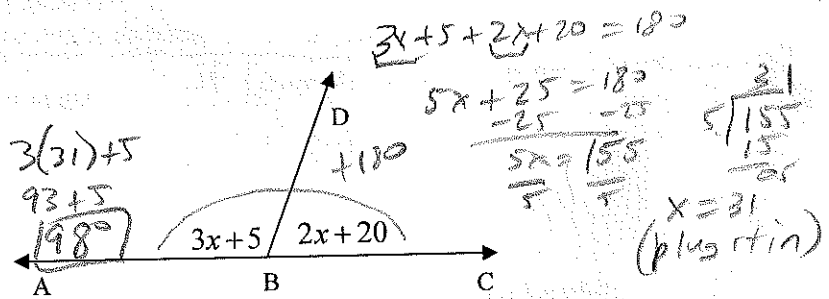
- A 25°
- B 65°
- C 115°**
- D 180°

Complement = add to 90°
 Supplement = add to 180°

$$\begin{array}{r} 180 \\ - 65 \\ \hline 115 \end{array}$$

19. Find the measure of $\angle ABD$.

- A 35°
- B 82°
- C 98°**
- D 175°



20. Which of the following is not a postulate used to prove the congruence of triangles?

- A AAS
- B SSS
- C AAA**
- D ASA

21. Find the sum of the measures of the exterior angles of a hexagon.

- A 60
- B 120
- C 360**
- D 900

always 360°

22. Find YX if X is between Y and Z, YZ = 10, and XZ = 2.

- A 8
- B 10
- C 12
- D 14

draw a picture:



23. What symbol is used to indicate two angles are congruent?

- A =
- B ||
- C ⊥
- D ≅

24. Which of the following describes an angle whose measure is greater than 0° and less than 90°?

- A an acute angle
- B an obtuse angle
- C a right angle
- D a straight angle

25. Identify the conclusion of this conditional statement:

"If two angles are supplementary to the same angle, then they are congruent."

- A two angles are supplementary to the same angle
- B they are congruent
- C both A and B
- D neither A nor B

if (conditional) then (conclusion)

26. The measure of two angles of a triangle are 47° and 79°. What is the measure of the third angle?

- A 54°
- B 64°
- C 101°
- D 133°

$$\begin{array}{r} 47 \\ 79 \\ \hline 126 \end{array} \quad \begin{array}{r} 180 \\ -126 \\ \hline 54 \end{array}$$

(3 angles in Δ add to 180°)

27. The measure of a base angle of an isosceles triangle is 76°. What is the measure of the vertex angle?

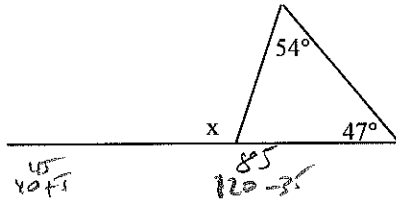
- A 28°
- B 76°
- C 104°
- D 152°



$$\begin{array}{r} 180 \\ -152 \\ \hline 28 \end{array} \quad \begin{array}{r} 76 \\ 76 \\ \hline 152 \end{array}$$

28. Find the value of x .

- A 7°
- B 47°
- C 79°
- D 101°**



exterior angle = sum of remote interior angles

$$\begin{array}{r} 54 \\ 47 \\ \hline 101 \end{array}$$

29. In $\triangle RST$, $m\angle R = x + 10$, $m\angle S = x + 5$, and $m\angle T = 3x - 35$. Choose the list that shows the angles correctly ordered from largest to smallest.

- A $\angle S, \angle T, \angle R$
- B $\angle R, \angle T, \angle S$
- C $\angle T, \angle R, \angle S$**
- D $\angle R, \angle S, \angle T$

\angle s sum to 180

$$x + 10 + x + 5 + 3x - 35 = 180$$

$$5x - 20 = 180$$

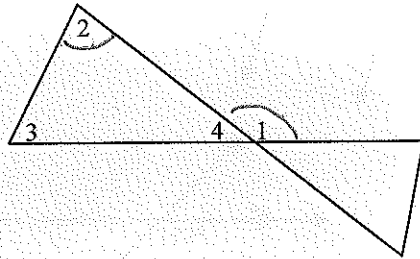
$$+20 \quad +20$$

$$\frac{5x}{5} = \frac{200}{5}$$

$$x = 40$$

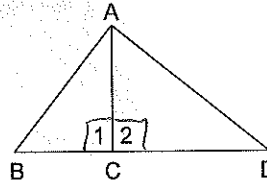
30. $m\angle 2$??? $m\angle 1$

- A $>$**
- B $>$
- C $=$
- D \cong



31. Given $\angle 1 \cong \angle 2$, which of the following is true?

- A \overline{AC} is a median
- B \overline{AC} is an angle bisector of $\angle BAD$
- C A is equidistant from B and D
- D \overline{AC} is an altitude**

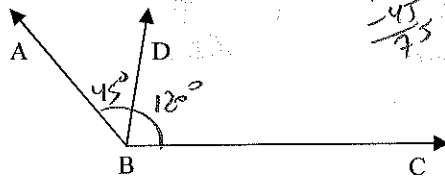


32. Which of the following describes the segment drawn from a vertex of a scalene triangle to the midpoint of the opposite side?

- A a triangle bisector
- B an angle bisector
- C a median**
- D an altitude

33. If $m\angle ABD = 45^\circ$ and $m\angle ABC = 120^\circ$, find $m\angle DBC$.

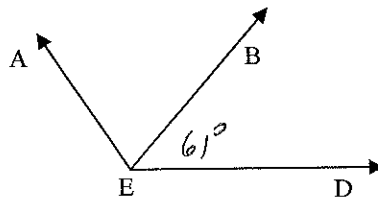
- A 70°
- B 75°**
- C 80°
- D 120°



$$\begin{array}{r} 180 \\ -45 \\ \hline 135 \\ -120 \\ \hline 15 \end{array}$$

34. If \overline{EB} bisects $\angle AED$ and $m\angle DEB = 61^\circ$, find $m\angle AED$.

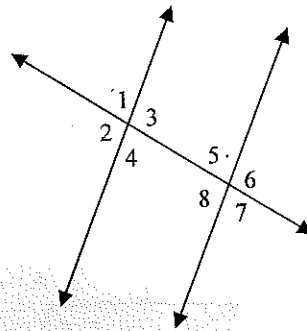
- A 30°
- B 90°
- C 122°**
- D 180°



$$\begin{array}{r} 61 \\ 61 \\ \hline 122 \end{array}$$

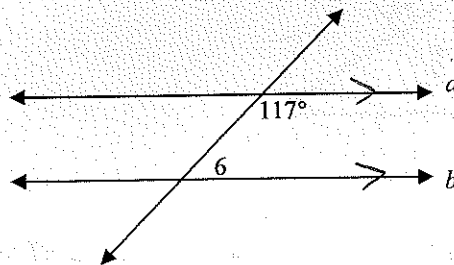
35. Which is a pair of corresponding angles?

- A $\angle 1$ and $\angle 5$**
- B $\angle 2$ and $\angle 5$
- C $\angle 2$ and $\angle 6$
- D $\angle 3$ and $\angle 8$



36. Given $a \parallel b$, find $m\angle 6$.

- A 27°
- B 63°**
- C 105°
- D 117°



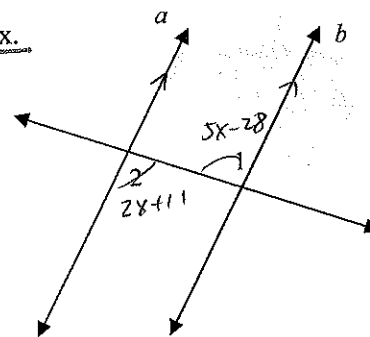
same side int's supplementary

$$\begin{array}{r} 180 \\ -117 \\ \hline 63 \end{array}$$

37. If $a \parallel b$, and $m\angle 1 = 5x - 28$, and $m\angle 2 = 2x + 11$, find the value of x.

- A 4
- B 5
- C 13**
- D 37

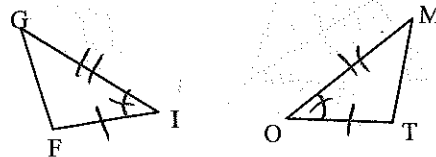
$$\begin{array}{r} 2x + 11 = 5x - 28 \\ -2x \quad -2x \\ \hline 11 = 3x - 28 \\ +28 \quad +28 \\ \hline 39 = 3x \\ \frac{39}{3} = \frac{3x}{3} \quad x = 13 \end{array}$$



alt int's =

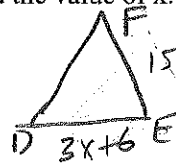
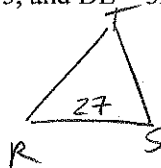
38. Given that $\overline{FI} \cong \overline{TO}$ and $\angle I \cong \angle O$. Name one additional pair of corresponding parts that need to be congruent in order to prove that $\triangle FIG \cong \triangle TOM$ by SAS.

- A $\overline{FG} \cong \overline{MT}$
- B $m\angle F \cong m\angle T$
- C $\overline{IG} \cong \overline{OM}$**
- D $\overline{FI} \cong \overline{OT}$



39. Given $\triangle RST \cong \triangle DEF$, $RS = 27$, $EF = 15$, and $DE = 3x + 6$. Find the value of x .

- A 3
- B 7**
- C 9
- D 21



$$\begin{array}{r} 3x+6 = 27 \\ -6 \quad -6 \\ \hline 3x = 21 \quad x = 7 \end{array}$$

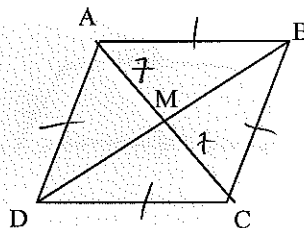
40. All rectangles have

- A four congruent sides ~~x~~
- B perpendicular diagonals ~~x~~
- C four right angles ✓**
- D diagonals that bisect angles ~~x~~



41. ABCD is a rhombus. If $AM = 7$, find AC.

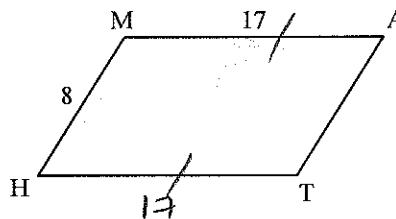
- A 3.5
- B 7
- C 14**
- D 28



rhombus \Rightarrow all sides equal
 \Rightarrow diags. bis each other

42. Given: Parallelogram MATH as marked. Find TH.

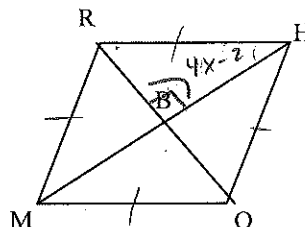
- A 8
- B 16
- C 17**
- D 34



parallelogram \Rightarrow opp sides \cong

43. RHOM is a rhombus. If $m\angle RBH = 4x - 2$, find the value of x .

- A 22
- B 23**
- C 67
- D 90

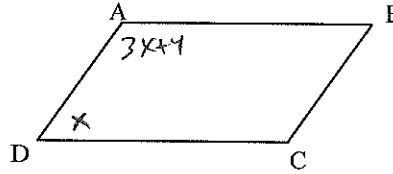


rhombus \Rightarrow diags. \perp

$$\begin{array}{r} 4x - 2 = 90 \\ 4x = 92 \\ \hline x = 23 \end{array}$$

44. If ABCD is a parallelogram, $m\angle D = x$, and $m\angle A = 3x + 4$, find the value of x .

- A 43
- B 44
- C 45
- D 46



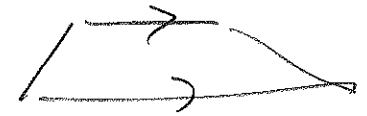
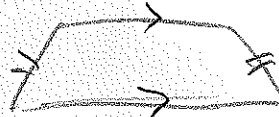
$$\begin{aligned}
 3x+4+x &= 180 \\
 4x+4 &= 180 \\
 4x &= 176 \\
 x &= \frac{176}{4} \\
 x &= 44
 \end{aligned}$$

45. If DEFG is a square, find $m\angle DEF$.

- A 30°
- B 45°
- C 60°
- D 90°

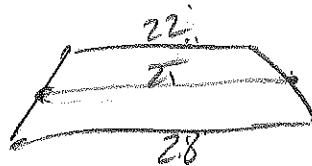
46. In an isosceles trapezoid, the bases are

- A parallel segments
- B bisectors of each other
- C perpendicular segments
- D congruent segments



47. The measures of the bases of a trapezoid are 22 and 28. What is the measure of the median of the trapezoid?

- A 25
- B 36
- C 39
- D 50



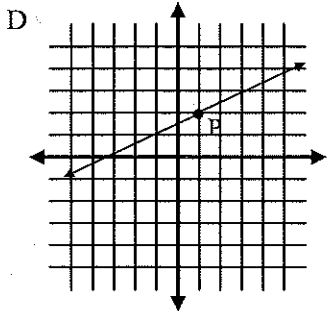
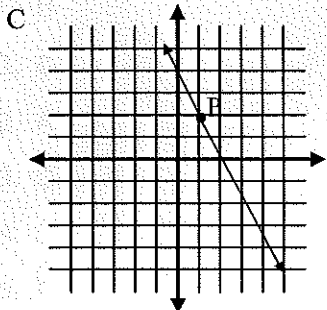
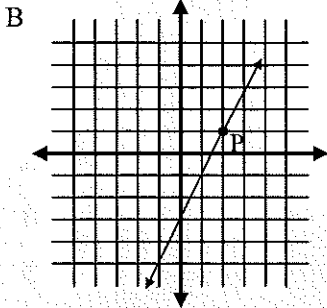
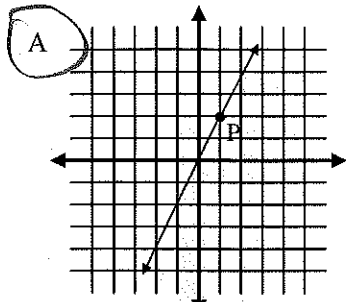
$$\frac{22+28}{2} = 25$$

48. Find the slope of the line passing through (1, 3) and (-2, 5).

- A $\frac{2}{3}$
- B $-\frac{2}{3}$
- C $\frac{3}{2}$
- D $-\frac{3}{2}$

$$\text{slope} = \frac{y_2 - y_1}{x_2 - x_1} = \frac{5 - 3}{-2 - 1} = \frac{2}{-3} = -\frac{2}{3}$$

49. Which figure shows the line with a slope of 2 passing through P(1, 2)?



50. What is the slope of the line perpendicular to a line with slope of $\frac{1}{2}$?

A $\frac{1}{2}$

B $-\frac{1}{2}$

C 2

D -2

-2: negative, reciprocal

Geometry 1st Semester
Multiple Choice Review – Key

- 1. B
- 2. A
- 3. A
- 4. C
- 5. C
- 6. D
- 7. ~~D~~ B
- 8. D
- 9. C
- 10. D
- 11. C
- 12. A
- 13. C
- 14. C
- 15. A
- 16. B
- 17. D
- 18. C
- 19. C
- 20. C
- 21. C
- 22. A
- 23. D
- 24. A
- 25. B
- 26. A
- 27. A

- 28. ~~C~~ D
- 29. C
- 30. A
- 31. D
- 32. C
- 33. B
- 34. C
- 35. A
- 36. B
- 37. C
- 38. C
- 39. B
- 40. C
- 41. C
- 42. C
- 43. B ~~A~~
- 44. B
- 45. D
- 46. A
- 47. A
- 48. B
- 49. A
- 50. D

Geometry
1st Semester Final Review

Name: _____

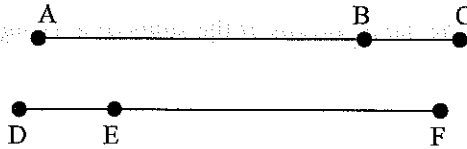
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- A contrapositive
- B converse
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2. Which Conjecture is always true based on the given information?

Given: $\overline{AC} \cong \overline{DF}$
 $\overline{BC} \cong \overline{DE}$



- A $\overline{AB} \cong \overline{EF}$
- B $\overline{AB} \cong \overline{DE}$
- C $\overline{BC} \cong \overline{EF}$
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3. Identify the counterexample for the conjecture *All prime numbers are odd.*

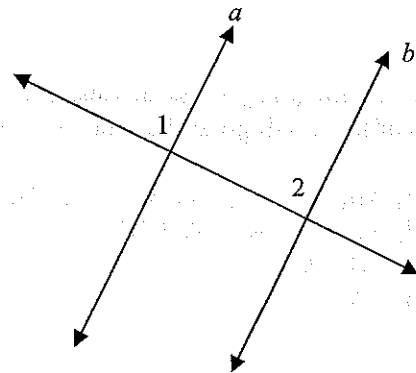
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- B 5 is a prime number
- C 89 is a prime number
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4. Find the coordinates of the midpoint of \overline{MN} for $M(8, 8)$ and $N(-2, 2)$.

- A (5, 5)
- B (5, 3)
- C (3, 5)
- D (8, 0)

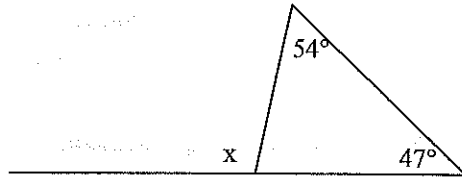
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- A 24°
- B 68°
- C 70°
- D 72°



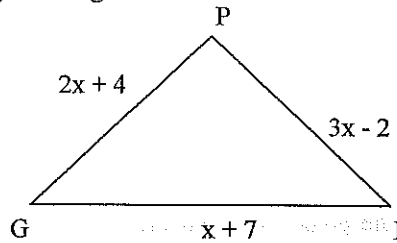
6. Find the value of x .

- A 7°
- B 47°
- C 79°
- D 101°



7. The perimeter of $\triangle PIG$ is 63. By solving for x determine whether $\triangle PIG$ is *isosceles*, *scalene*, or *equilateral*

- A isosceles
- B scalene
- C equilateral

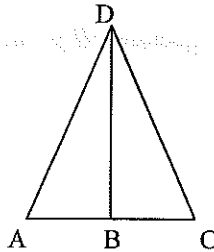


8. Determine which set of numbers can be the measures of the sides of a triangle.

- A 2, 6, 3
- B 3, 10, 13
- C 4, 6, 1
- D 5, 7, 3

9. Given $\overline{AD} \cong \overline{CD}$ and \overline{DB} bisects \overline{AC} . By what method is $\triangle ABD \cong \triangle CBD$?

- A SAS
- B ASA
- C SSS
- D SSA



10. Find the sum of the measures of the interior angles of a pentagon.

- A 72°
- B 108°
- C 360°
- D 540°

11. Jack and Jill are going to the movies. They can choose from movie A, movie B and movie C, but both of them will go to the same movie. What is the sample space for this situation?

- A $\{AA, AB, AC, BA, BB, BC, CA, CB, CC\}$
- B $\{AB, AC, BA, BC, CA, CB\}$
- C $\{AA, BB, CC\}$
- D $\{AB, CA\}$

12. Suppose you must select a committee of 3 from 10 people. Which of the following should you use?

- A Combination
- B Permutation
- C Probability
- D Pythagorean Theorem

13. There are 15 different books. How many groups of 6 can be selected?

- A 90
- B 720
- C 5005
- D 3603600

14. Fifteen people are entered in a race. If there are no ties, in how many ways can the first two places come out?

- A 30
- B 105
- C 210
- D 420

15. Observe these two algorithms for find the slope of the line with equation $3x + 4y = 12$

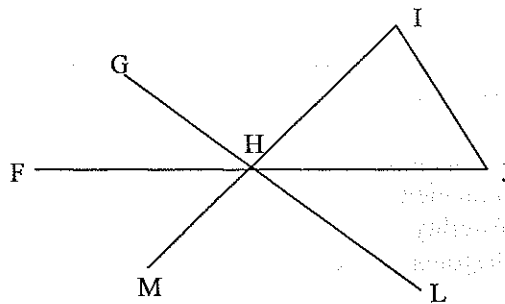
<p>Find two points on the line by substitution</p> <p>1st point: let $x = 0$; then</p> $3(0) + 4y = 12$ $4y = 12$ $y = 3$ <p>Therefore, one point is $(0, 3)$</p> <p>2nd point let $y = 0$; then</p> $3x + 4(0) = 12$ $3x = 12$ $x = 4$ <p>Therefore, another point is $(4, 0)$</p> <p>The slope is</p> $\frac{0 - 3}{4 - 0} = -\frac{3}{4}$	<p>Transform equation $3x + 4y = 12$ into slope-intercept form $y = mx + b$</p> <p>Add $-3x$ to both sides:</p> $4y = -3x + 12$ <p>Divide both sides by 4:</p> $y = -\frac{3}{4}x + 4$ <p>Therefore, the slope of the line is $-\frac{3}{4}$</p>
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These two algorithms are equivalent:

- A Always
- B Sometimes
- C Never

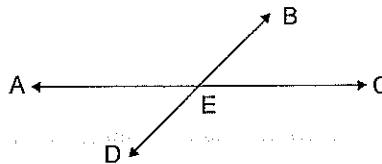
16. In the figure, what point is collinear to M and H?

- A F
- B I
- C J
- D L



17. Given to intersecting lines as shown. What conclusions can you draw?

- A $m\angle AED = m\angle BEC$
- B $m\angle AED + m\angle DEC = 180$
- C $m\angle AEB$ and $m\angle DEC$ are vertical angles
- D all of these

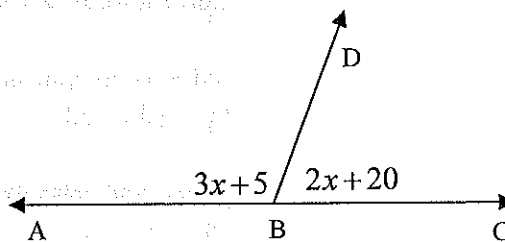


18. What is the supplement of 65° ?

- A 25°
- B 65°
- C 115°
- D 180°

19. Find the measure of $\angle ABD$.

- A 35°
- B 82°
- C 98°
- D 175°



20. Which of the following is *not* a postulate used to prove the congruence of triangles?

- A AAS
- B SSS
- C AAA
- D ASA

21. Find the sum of the measures of the exterior angles of a hexagon.

- A 60
- B 120
- C 360
- D 900

22. Find YX if X is between Y and Z, $YZ = 10$, and $XZ = 2$.

- A 8
- B 10
- C 12
- D 14

23. What symbol is used to indicate two angles are congruent?

- A =
- B ||
- C \perp
- D \cong

24. Which of the following describes an angle whose measure is greater than 0° and less than 90° ?

- A an acute angle
- B an obtuse angle
- C a right angle
- D a straight angle

25. Identify the conclusion of this conditional statement:

"If two angles are supplementary to the same angle, then they are congruent."

- A two angles are supplementary to the same angle
- B they are congruent
- C both A and B
- D neither A nor B

26. The measure of two angles of a triangle are 47° and 79° . What is the measure of the third angle?

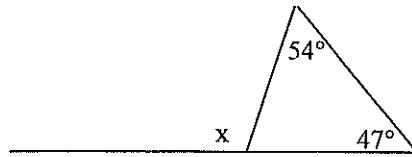
- A 54°
- B 64°
- C 101°
- D 133°

27. The measure of a base angle of an isosceles triangle is 76° . What is the measure of the vertex angle?

- A 28°
- B 76°
- C 104°
- D 152°

28. Find the value of x .

- A 7°
- B 47°
- C 79°
- D 101°

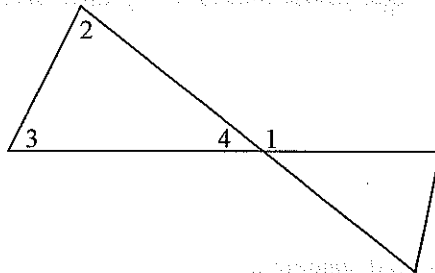


29. In $\triangle RST$, $m\angle R = x + 10$, $m\angle S = x + 5$, and $m\angle T = 3x - 35$. Choose the list that shows the angles correctly ordered from largest to smallest.

- A $\angle S, \angle T, \angle R$
- B $\angle R, \angle T, \angle S$
- C $\angle T, \angle R, \angle S$
- D $\angle R, \angle S, \angle T$

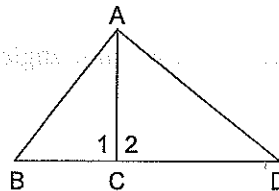
30. $m\angle 2$??? $m\angle 1$

- A $<$
- B $>$
- C $=$
- D \cong



31. Given $\angle 1 \cong \angle 2$, which of the following is true?

- A \overline{AC} is a median
- B \overline{AC} is an angle bisector of $\angle BAD$
- C A is equidistant from B and D
- D \overline{AC} is an altitude

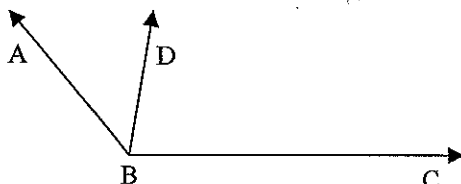


32. Which of the following describes the segment drawn from a vertex of a scalene triangle to the midpoint of the opposite side?

- A a triangle bisector
- B an angle bisector
- C a median
- D an altitude

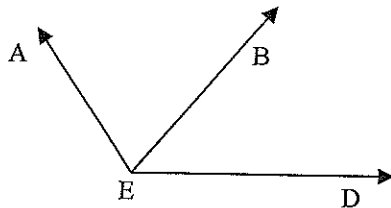
33. If $m\angle ABD = 45^\circ$ and $m\angle ABC = 120^\circ$, find $m\angle DBC$.

- A 70°
- B 75°
- C 80°
- D 120°



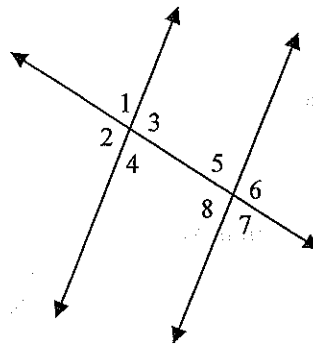
34. If \overline{EB} bisects $\angle AED$ and $m\angle DEB = 61^\circ$, find $m\angle AED$.

- A 30°
- B 90°
- C 122°
- D 180°



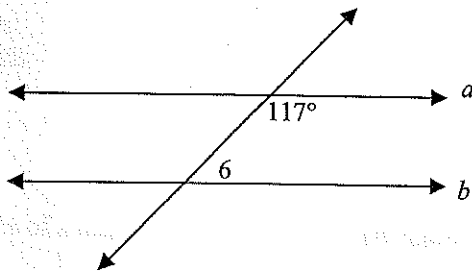
35. Which is a pair of corresponding angles?

- A $\angle 1$ and $\angle 5$
- B $\angle 2$ and $\angle 5$
- C $\angle 2$ and $\angle 6$
- D $\angle 3$ and $\angle 8$



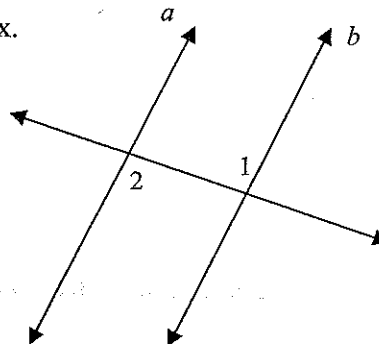
36. Given $a \parallel b$, find $m\angle 6$.

- A 27°
- B 63°
- C 105°
- D 117°



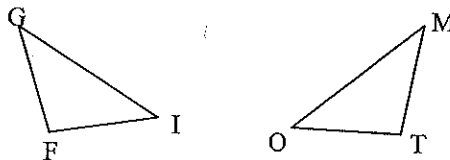
37. If $a \parallel b$, and $m\angle 1 = 5x - 28$, and $m\angle 2 = 2x + 11$, find the value of x .

- A 4
- B 5
- C 13
- D 37



38. Given that $\overline{FI} \cong \overline{TO}$ and $\angle I \cong \angle O$. Name one additional pair of corresponding parts that need to be congruent in order to prove that $\triangle FIG \cong \triangle TOM$ by SAS.

- A $\overline{FG} \cong \overline{MT}$
- B $m\angle F \cong m\angle T$
- C $\overline{IG} \cong \overline{OM}$
- D $\overline{FI} \cong \overline{OT}$



39. Given $\triangle RST \cong \triangle DEF$, $RS = 27$, $EF = 15$, and $DE = 3x + 6$. Find the value of x .

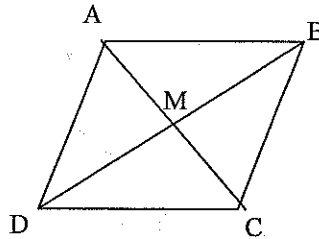
- A 3
- B 7
- C 9
- D 21

40. All rectangles have

- A four congruent sides
- B perpendicular diagonals
- C four right angles
- D diagonals that bisect angles

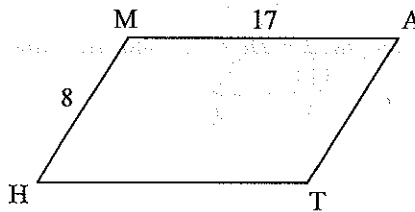
41. ABCD is a rhombus. If $AM = 7$, find AC.

- A 3.5
- B 7
- C 14
- D 28



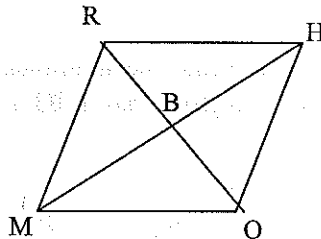
42. Given: Parallelogram MATH as marked. Find TH.

- A 8
- B 16
- C 17
- D 34



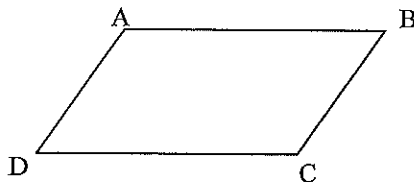
43. RHOM is a rhombus. If $m\angle RBH = 4x - 2$, find the value of x .

- A 22
- B 23
- C 67
- D 90



44. If ABCD is a parallelogram, $m\angle D = x$, and $m\angle A = 3x + 4$, find the value of x .

- A 43
- B 44
- C 45
- D 46



45. If DEFG is a square, find $m\angle DEF$.

- A 30°
- B 45°
- C 60°
- D 90°

46. In an isosceles trapezoid, the bases are

- A parallel segments
- B bisectors of each other
- C perpendicular segments
- D congruent segments

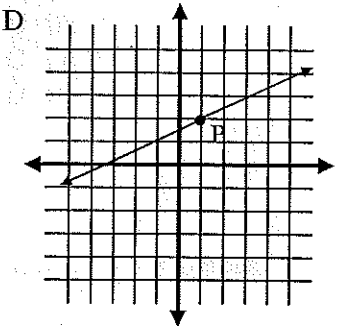
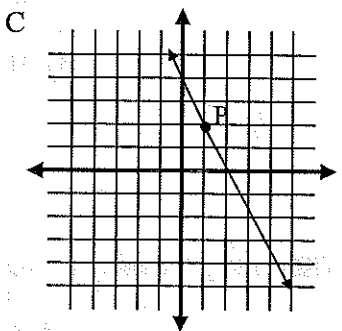
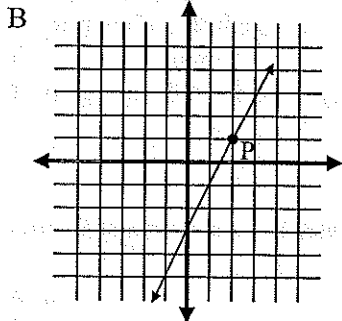
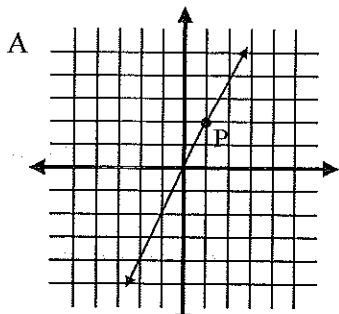
47. The measures of the bases of a trapezoid are 22 and 28. What is the measure of the median of the trapezoid?

- A 25
- B 36
- C 39
- D 50

48. Find the slope of the line passing through (1, 3) and (-2, 5).

- A $\frac{2}{3}$
- B $-\frac{2}{3}$
- C $\frac{3}{2}$
- D $-\frac{3}{2}$

49. Which figure shows the line with a slope of 2 passing through P(1, 2)?



50. What is the slope of the line perpendicular to a line with slope of $\frac{1}{2}$?

A $\frac{1}{2}$

B $-\frac{1}{2}$

C 2

D -2