Fall Semester Review
Basic Geometry
Blaseg/Bauck

Name _____

Chapter 1 – Basics of Geometry

A 1. Describe a pattern in the numbers: 64, 32, 16, 8, 4...

A. Each number is $\frac{1}{2}$ the previous number
B. Each number is 8 less than the previous number
C. Each number is 32 less than the previous number
D. Each number is $\frac{1}{4}$ the previous number

$64 \cdot \frac{1}{2} = 32$
$32 \cdot \frac{1}{2} = 16$

C 2. What is the next number in the pattern? 1, 5, 13, 25...

+4 +8 +12

A. 33 B. 38 C. 41 D. 169

$25 + 16 = 41$

B 3. What is the next number in the pattern? 100, 81, 64, 49, 36...

-19 -15 -17 -13

A. 18 B. 25 C. 30 D. 20

$36 - 11$

B 4. Which counterexample shows that the conjecture below is false?

The product of two positive numbers is always greater than either number.

↳ less

A. 2 x 2 = 4
B. 2 x $\frac{1}{2}$ = 1
C. 3 x 10 = 30
D. 2 x -1 = -2

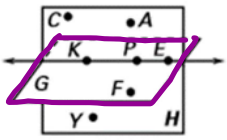
A 5. Which counterexample shows that the conjecture below is false?

The product of an odd number and an even number is odd.

→ even

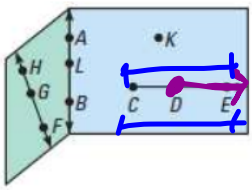
A. 3 x 4 = 12
B. 4 x 4 = 16
C. 3 x 3 = 9
D. 5 x 5 = 25

D 6. Name a point that is coplanar with points K, E, and F. → same plane



A. A
B. Y
C. C
D. P

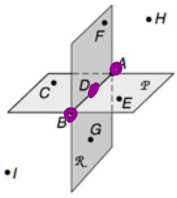
D 7. Which statement is false?



A. F, G, and H are collinear → same line
B. C, D, K, and L are coplanar → same plane
C. L lies on $\overleftrightarrow{AB}$
D. $\overrightarrow{DE}$ contains $\overline{CE}$

A 8. In the figure, which three points are collinear?

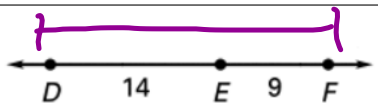
↳ same line



A. A, D, B
B. B, G, D
C. A, F, H
D. D, E, G

B 9. Find DF.

14 + 9

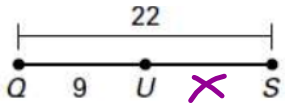


A. DF = 5
B. DF = 23
C. DF = 25
D. DF = 33

B 10. Find US.

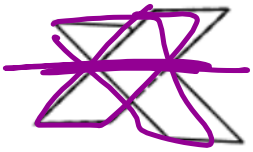
22 − 9 = 13

9 + x = 22
−9 −9



A. US = 9
B. US = 13
C. US = 11
D. US = 31

D 11. Which is the best description of the diagram?



A. Two lines that intersect in one point
B. Four lines that intersect in two points
C. Two planes that intersect in two lines
D. Two planes that interset in one line

C 12. Which term correctly classifies an angle that measures 154°?

90 < x < 180
obtuse

A. Acute B. Right C. Obtuse D. Straight

A 13. Which term correctly classifies an angle that measures 89°?

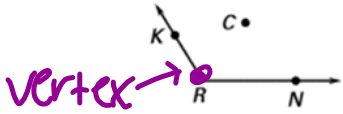
acute = less than 90

A. Acute B. Right C. Obtuse D. Straight

D 14. Which term correctly classifies an angle that measures 180°? → straight

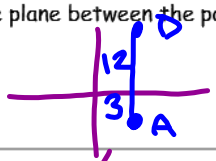
A. Acute B. Right C. Obtuse D. Straight

C 15. Name the vertex of the angle.



A. C
B. K
C. R
D. N

B 16. A line segment is drawn in the coordinate plane between the points A(4, -3) and D(4,12). How long is the segment?

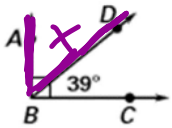


12 + 3 = 15

A. 4
B. 15
C. 12
D. 10

C 17. What is the measure of ∠ABD ?

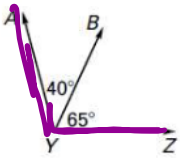
x + 39 = 90
−39 −39
x = 51



A. 39°
B. 90°
C. 51°
D. 129°

D 18. What is the measure of ∠AYZ ?

40 + 65 = 105°

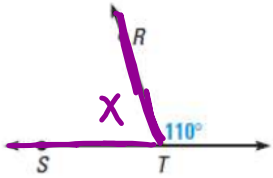


A. 30°
B. 55°
C. 80°
D. 105°

For 19-24, find each measure.

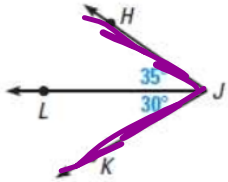
19. $m\angle STR$ = 70°

$x + 110 = 180$
$-110 \quad -110$
$x = 70$



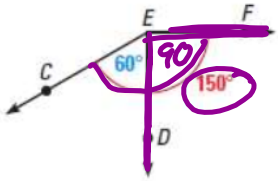
20. $m\angle HJK$ = 65°

35+30



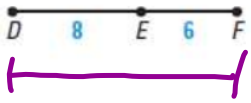
21. $m\angle DEF$ = 90°

150-60



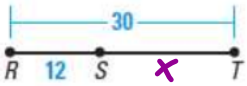
22. DF = 14

8+6



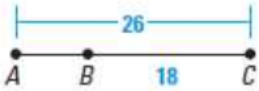
23. ST = 18

30-12



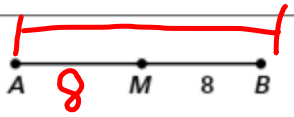
24. AB = 8

26-18



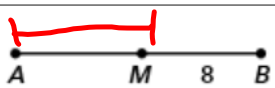
Chapter 2 – Segments and Angles

D 25. M is the midpoint of line segment AB. Find AB.



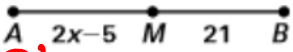
A. AB = 4 C. AB = 8
B. AB = 12 D. AB = 16

C 26. M is the midpoint of line segment AB. Find AM.



A. AM = 4 C. AM = 8
B. AM = 12 D. AM = 16

B 27. M is the midpoint of AB. What is the value of x?



A. x = 8 C. x = 12
B. x = 13 D. x = 26

$2x - 5 = 21$
$+5 \quad +5$
$2x = 26$

A 28. Use the Midpoint Formula to find the midpoint of the coordinates $A(4, -2)$ and $B(10, -6)$.

A. $(7, -4)$ C. $(1, 2)$
B. $(3, 2)$ D. $(14, -8)$

$\left(\frac{14}{2}, \frac{-2+-6}{2}\right)$
$(7, -4)$

A 29. Use the Midpoint Formula to find the midpoint of the coordinates $C(2, 7)$ and $D(-6, 2)$.

A. $(-2, 4.5)$
B. $(-4, 9)$
C. $(-2, 4)$
D. $(4.5, -2)$

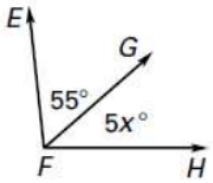
$\left(\frac{2+-6}{2}, \frac{7+2}{2}\right)$
$\left(\frac{-4}{2}, \frac{9}{2}\right)$

B 30. What is the value of x if $\overrightarrow{FG}$ bisects $\angle EFH$?

A. x = 10
B. x = 11
C. x = 30
D. x = 35

↳ splits in half

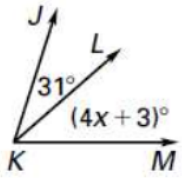
$5x = 55$



D 31. What is the value of x if $\overrightarrow{LK}$ bisects $\angle JKM$?

A. x = 4
B. x = 5
C. x = 6
D. x = 7

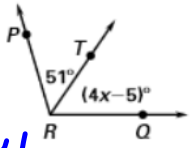
$31 = 4x + 3$
$-3 \quad -3$
$\frac{28}{4} = \frac{4x}{4}$
$\boxed{x = 7}$



B 32. What is the value of x if $\overrightarrow{RT}$ bisects $\angle PRQ$?

A. x = 11.5
B. x = 14
C. x = 18
D. x = 22

$4x - 5 = 51$
$+5 \quad +5$
$\frac{4x}{4} = \frac{56}{4}$
$x = 14$



B 33. What is the measure of the complement to a 27° angle?

A. 53°
B. 63°
C. 117°
D. 153°

↳ add up to 90°

$27 + x = 90$
$x = 63°$

D 34. What is the measure of the supplement to a 27° angle?

A. 53°
B. 63°
C. 117°
D. 153°

↳ add up to 180°

$27 + x = 180$

B 35. What is the measure of the complement to a 64° angle?

A. 16°
B. 26°
C. 116°
D. 126°

$64 + x = 90$
$x = 26°$

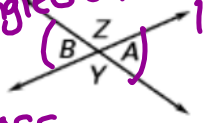
C 36. What is the measure of the supplement to a 64° angle?

A. 16°
B. 26°
C. 116°
D. 126°

$64 + x = 180$
$x = 116°$

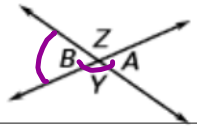
D 37. What can you conclude about $\angle A$ and $\angle B$?

A. They are adjacent angles → next to each other
B. They are right angles ↳ 90°
C. They form a linear pair → angles on same line
D. They are vertical angles ↳ across

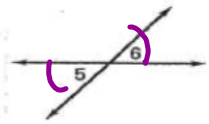


C 38. What can you conclude about $\angle Y$ and $\angle B$?

A. They are adjacent angles
B. They are right angles
C. They form a linear pair
D. They are vertical angles

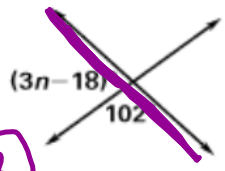


C 39. What kind of angles are ∠5 and ∠6?



A. Linear Pair
B. Corresponding Angles
C. Vertical Angles
D. Same-side Interior Angles

A 40. What is the value of n?



A. n = 32
B. n = 40
C. n = 36
D. n = 44

$3n - 18 + 102 = 180$

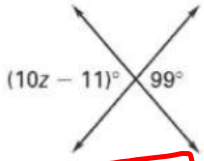
$3n + 84 = 180$

$-84 \quad -84$

$\frac{3n}{3} = \frac{96}{3}$

$\boxed{n = 32}$

B 41. Write an equation to solve for z. Then, solve for z.



A. 10z - 11 + 99 = 180; z = 9.2
B. 10z - 11 = 99; z = 11
C. 10z - 11 + 99 = 180; z = 7
D. 10z - 11 = 99; z = 8.8

* $10z - 11 = 99$

$+11 \quad +11$

$\frac{10z}{10} = \frac{110}{10}$

$\boxed{z = 11}$

B 42. Which statement follows from the following pair of true statements?

If Kasey does her homework, then she will get a good grade.
If Kasey gets a good grade, then she will pass the class.

A. Kasey passes the class.
B. If Kasey does her homework, then she will pass the class.
C. Kasey will get a good grade.
D. If Kasey passes with class, then she did her homework.

A 43. How can the statement "*Every driver must have a license*" be rewritten as an if-then statement?

If ^ then ^

A. If a person is a driver, then he or she must have a license.
B. If a person has a license, then he or she is a driver.
C. All people must have a license.
D. None of these.

B 44. What is the conclusion of the following if-then statement?

"*If the storm passes, then our plane will take off.*"

A. The storm passes.
B. Our plane will take off.

Hypothesis: If
Conclusion: then

A 45. What is the hypothesis of the following if-then statement?

"*If the storm passes, then our plane will take off.*"

A. The storm passes.
B. Our plane will take off.

cross off repeated info.

D 46. Which statement below illustrates the Transitive Property of Congruence?

A. If $\angle A \cong \angle B$, then $\angle B \cong \angle A$
B. $\angle A \cong \angle B$
C. $\angle A \cong \angle A$
D. If $\angle A \cong \angle B$ and $\angle B \cong \angle C$, then $\angle A \cong \angle C$

same thing on both sides

C 47. Which statement below illustrates the Symmetric Property of Congruence?

C. If $\angle A \cong \angle B$, then $\angle B \cong \angle A$
D. $\angle A \cong \angle B$
C. $\angle A \cong \angle A$
D. If $\angle A \cong \angle B$ and $\angle B \cong \angle C$, then $\angle A \cong \angle C$

C 48. Which statement below illustrates the Reflexive Property of Equality?

A. $12 = x + 4$
B. $\frac{3}{4} + \frac{1}{4} = \frac{1}{4} + \frac{3}{4}$
C. $m\angle A = m\angle A$
D. $m\angle A + m\angle B = m\angle B + m\angle A$

For 49-51, underline the hypothesis and circle the conclusion of each conditional statement.

if then

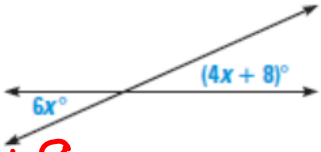
49. If it is cold outside then I will wear a coat.

50. Tomorrow is Christmas Day if today is December 24th.

51. If I am in geometry class then I have the best teachers ever.

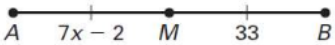
For 52-55, find the value of each variable.

52. x = 4



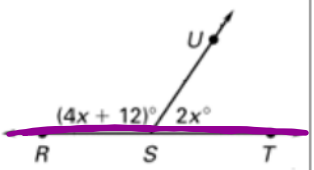
$6x = 4x + 8$
$-4x \quad -4x$
$\frac{2x}{2} = \frac{8}{2}$
$\boxed{x = 4}$

53. x = 5



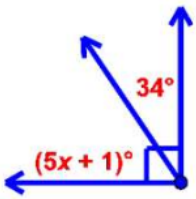
$7x - 2 = 33$
$+2 \quad +2$
$\frac{7x}{7} = \frac{35}{7}$
$\boxed{x = 5}$

54. x = 28



$4x + 12 + 2x = 180$
$6x + 12 = 180$
$-12 \quad -12$
$\frac{6x}{6} = \frac{168}{6}$
$\boxed{x = 28}$

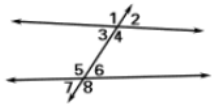
55. x = 11



$5x + 1 + 34 = 90$
$5x + 35 = 90$
$-35 \quad -35$
$\frac{5x}{5} = \frac{55}{5}$
$x = 11$

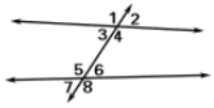
Chapter 3 – Parallel and Perpendicular Lines

_____ 56. Which is a pair of corresponding angles?



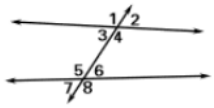
A. $\angle 1$ *and* $\angle 4$ C. $\angle 2$ *and* $\angle 6$
B. $\angle 3$ *and* $\angle 6$ D. $\angle 2$ *and* $\angle 8$

_____ 57. Which describes the relationship between angles $\angle 2$ and $\angle 7$?



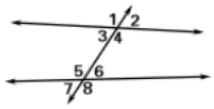
A. Alternate exterior angles C. Alternate interior angles
B. Same-side interior angles D. Corresponding angles

_____ 58. Which describes the relationship between angles $\angle 3$ and $\angle 6$?



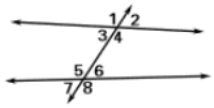
A. Alternate exterior angles C. Alternate interior angles
B. Same-side interior angles D. Correspondig angles

_____ 59. Which describes the relationship between angles $\angle 1$ and $\angle 5$?



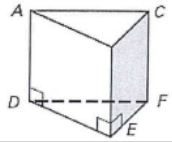
A. Alternate exterior angles C. Alternate interior angles
B. Same-side interior angles D. Correspondig angles

_____ 60. Which describes the relationship between angles $\angle 4$ and $\angle 6$?



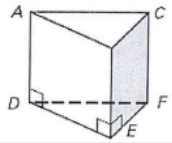
A. Alternate exterior angles C. Alternate interior angles
B. Same-side interior angles D. Correspondig angles

_____ 61. In the diagram, $\overleftrightarrow{AD}$ and $\overleftrightarrow{DE}$ are marked to show that they are _____.



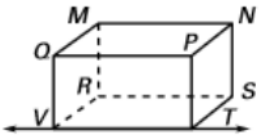
A. Parallel C. Skew
B. Perpendicular D. Intersecting

_____ 62. In the diagram, $\overleftrightarrow{AC}$ and $\overleftrightarrow{DF}$ are _____.



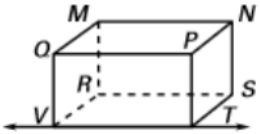
A. Parallel C. Skew
B. Perpendicular D. Intersecting

_____ 63. Using the diagram, name a line that is skew to $\overleftrightarrow{VT}$.



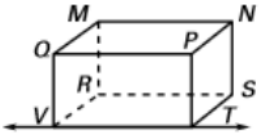
A. $\overleftrightarrow{MN}$ C. $\overleftrightarrow{QV}$
B. $\overleftrightarrow{RS}$ D. $\overleftrightarrow{NS}$

_____ 64. Using the diagram, name a line that is perpendicular to *plane* MNR.



A. $\overleftrightarrow{ST}$ C. $\overleftrightarrow{QP}$
B. $\overleftrightarrow{MR}$ D. $\overleftrightarrow{VQ}$

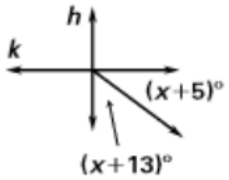
_____ 65. Using the diagram, name a line that is parallel to $\overleftrightarrow{VT}$.



A. $\overleftrightarrow{ST}$ C. $\overleftrightarrow{QP}$
B. $\overleftrightarrow{MR}$ D. $\overleftrightarrow{VQ}$

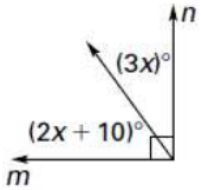
_____ 66. If h and k are perpendicular, what is the value of x?

A. x = 8
B. x = 45
C. x = 36
D. x = 81



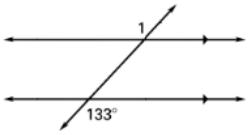
_____ 67. Find the value of x given that $m \perp n$.

A. x = 16
B. x = 42
C. x = 48
D. x = 80



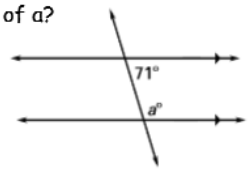
_____ 68. What is the measure of $\angle 1$?

A. 133°
B. 47°
C. 180°
D. 157°



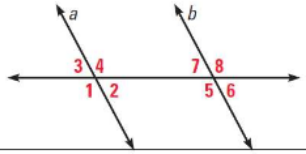
_____ 69. The two angles shown are same side interior angles. What is the value of a?

A. a = 19
B. a = 71
C. a = 109
D. a = 119



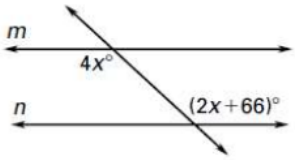
_____ 70. If $a \parallel b$, which is a pair of angles is congruent?

A. $\angle 3$ *and* $\angle 6$
B. $\angle 3$ *and* $\angle 8$
C. $\angle 2$ *and* $\angle 5$
D. None of these



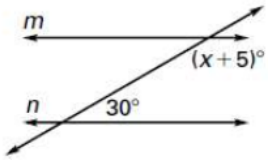
_____ 71. In the figure $m \parallel n$, what is the value of x?

A. x = 4
B. x = 19
C. x = 33
D. x = 45



_____ 72. In the figure $m \parallel n$, what is the value of x?

A. x = 25
B. x = 35
C. x = 55
D. x = 145



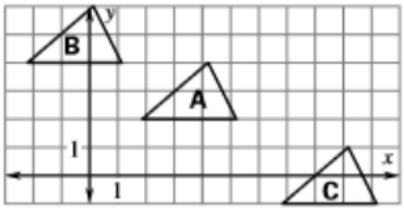
_____ 73. What is the image of the point (-1, 2) after the translation given by: $(x, y) \rightarrow (x + 2, y - 3)$

A. $(-4, 4)$
B. $(1, -1)$
C. $(-1, 2)$
D. $(2, -3)$

_____ 74. What is the image of the point (5, -12) after the translation given by: $(x, y) \rightarrow (x - 4, y + 5)$

A. $(1, -7)$
B. $(9, 19)$
C. $(1, 7)$
D. $(2, -7)$

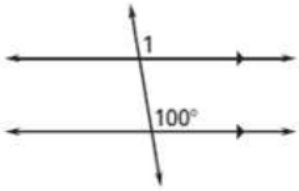
_____ 75. Which describes the translation of Figure A to its image, Figure C, in coordinate notation?



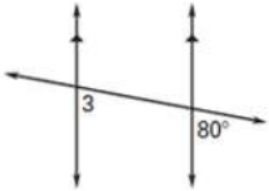
A. $(x, y) \rightarrow (x - 5, y + 3)$
B. $(x, y) \rightarrow (x + 2, y - 1)$
C. $(x, y) \rightarrow (x - 3, y + 5)$
D. $(x, y) \rightarrow (x + 5, y - 3)$

For 76-81, find the measure of each numbered angle.

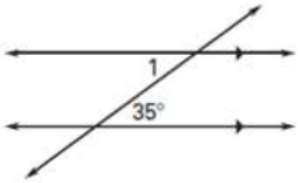
76. _____



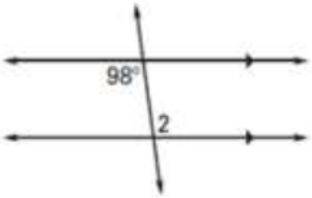
77. _____



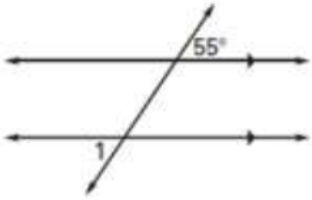
78. _____



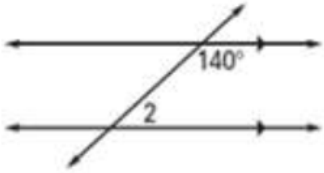
79. _____



80. _____



81. _____



82. Find the coordinates of A, B, C, and D from the graph. Then use the translation rule to find the coordinates of A', B', C', and D'. *Then graph and label the image.*

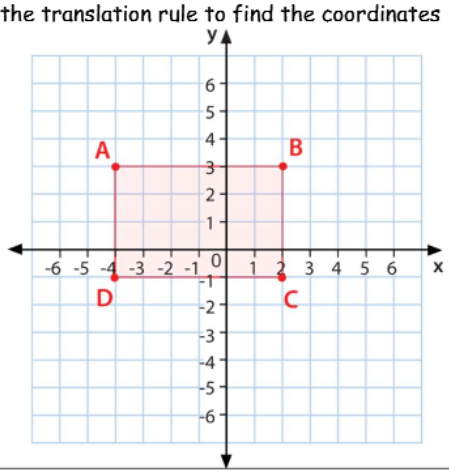
(x,y) → (x + 4, y - 3)

A(,) A' (,)

B (,) B' (,)

C (,) C' (,)

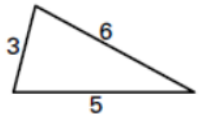
D (,) D' (,)



Chapter 4 - Triangle Relationships

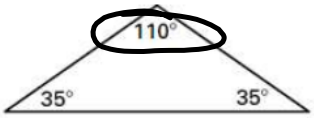
A 83. Classify the triangle by its sides.

A. Scalene → all sides diff.
B. Equilateral → all sides =
C. Isosceles → 2 sides =
D. Right → 90° <



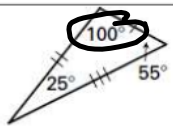
C 84. Classify the triangle by its angles.

A. Acute
B. Equiangular
C. Obtuse
D. Right



D 85. Classify the triangle by its sides and angles.

A. Acute scalene
B. Equilateral Equiangular
C. Isosceles Right
D. Obtuse Scalene



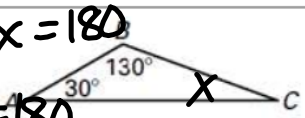
A 86. Find the measure of ∠C.

A. 20°
B. 30°
C. 80°
D. 100°

$130+30+x=180$

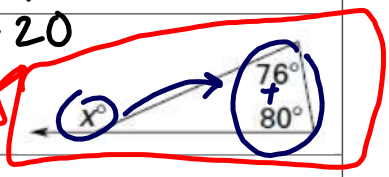
$160+x=180$

$x=20$



D 87. What is the value of x?

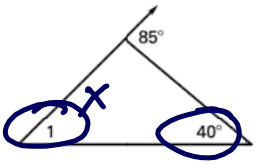
A. 24
B. 104
C. 100
D. 156



B 88. What is the measure of ∠1?

A. 40°
B. 45°
C. 85°
D. 125°

$x+40=85$
$-40 \quad -40$
$x=45$



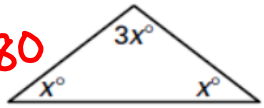
A 89. What is the value of x?

A. 36
B. 90
C. 45
D. 108

$x+x+3x=180$

$\frac{5x}{5}=\frac{180}{5}$

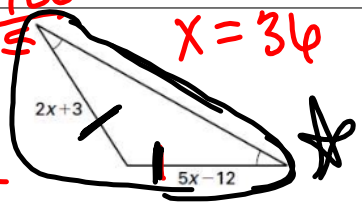
$x=36$



C 90. What is the value of x?

A. 3
B. 4.5
C. 5
D. 10

$2x+3=5x-12$
$-2x \quad -2x$
$3=3x-12$
$+12 \quad +12$
$\frac{15}{3}=\frac{3x}{3}$
$\boxed{5=x}$

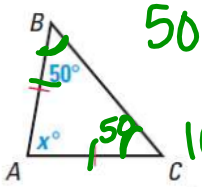


C 91. Find the value of x.

A. 50
B. 65
C. 80
D. 100

$50+50+x=180$

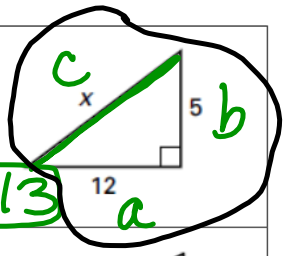
$100+x=180$



$a^2+b^2=c^2$

C 92. Use the Pythagorean Theorem to find the value of x.

A. x = 5
B. x = 12
C. x = 13
D. x = 25

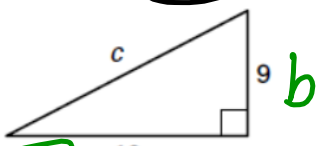


$\rightarrow 12^2+5^2=c^2$

$\sqrt{169}=\sqrt{c^2}$ $\boxed{c=13}$

B 93. What is the length of the hypotenuse?

A. 4.5
B. 15
C. 21
D. 225

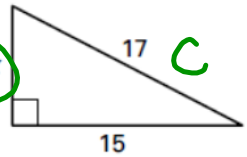


$\rightarrow 12^2+9^2=c^2$

$\sqrt{225}=\sqrt{c^2}$ $\boxed{c=15}$

B 94. Use the Pythagorean Theorem to find the value of x.

A. 2
B. 8
C. 10
D. 32



$15^2+b^2=17^2$ b

$225+b^2=289$

$-225 \quad -225$

$\sqrt{b^2}=\sqrt{64}$ $\boxed{b=8}$

A 95. What is the distance between the points (1, -1) and (4, -5)?

A. 5
B. 9
C. 16
D. 25

$\sqrt{(x_2-x_1)^2+(y_2-y_1)^2}$

$\sqrt{(4-1)^2+(-5--1)^2}$

$\sqrt{3^2+(-4)^2}$

$\sqrt{9+16}$

$\sqrt{25}$ $\boxed{=5}$

C 96. What is the distance between the points (-7, 2) and (3, 8)?

A. 2.6
B. 5.4
C. 11.7
D. 16

$\sqrt{(3--7)^2+(8-2)^2}$

$\sqrt{10^2+6^2}$

$\sqrt{100+36}$

$\sqrt{136}$

D 97. Which of the following represent the lengths of an *obtuse* triangle?

A. 5, 5, 7
B. 11, 11, 12
C. 5, 12, 13
D. 8, 12, 15

$5^2+12^2 ? 13^2$

$169=169$

$8^2+12^2=15^2$

$208<225$

$5^2+5^2 ? 7^2$

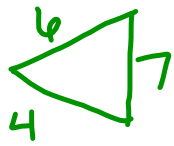
$50>49$

$11^2+11^2 ? 12^2$

$242>144$

C 98. Classify a triangle with sides 4, 6, and 7.

A. Right
B. Obtuse
C. Acute



$4^2+6^2 ? 7^2$

$52>49$

A 99. Which of the following sides lengths ***cannot*** form a triangle?

A. 1, 2, 3
B. 4, 5, 6
C. 7, 8, 9
D. 10, 11, 12

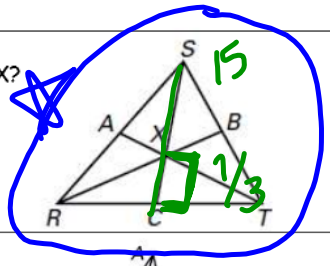
$1+2>3$

$3=3$

B 100. X is the centroid of ΔRST. If SC = 15, what is the value of CX?

A. 2.5
B. 5
C. 7.5
D. 10

$15(\frac{1}{3}) = 5$

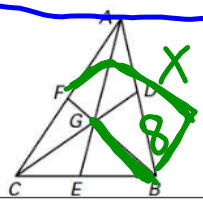


C 101. G is the centroid of ΔABC. If BG = 8, what is the value of FB?

A. 4
B. 8
C. 12
D. 16

$\frac{3}{2} \cdot (\frac{2}{3})x = 8 \cdot \frac{3}{2}$

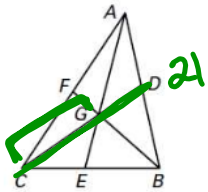
$x = 12$



B 102. G is the centroid of ΔABC. If CD = 21, what is the value of CG?

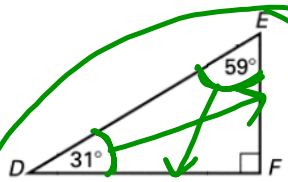
A. 7
B. 14
C. 35
D. 42

$\frac{2}{3}(21) = 14$



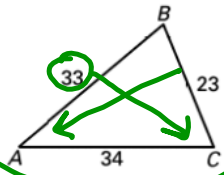
B 103. List the sides from shortest to longest.

A. $\overline{DF}, \overline{EF}, \overline{DE}$
B. $\overline{EF}, \overline{DF}, \overline{DE}$
C. $\overline{EF}, \overline{DE}, \overline{DF}$
D. $\overline{DE}, \overline{DF}, \overline{FE}$



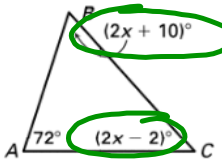
C 104. List the angles from smallest to largest.

A. $\angle A, \angle B, \angle C$
B. $\angle B, \angle C, \angle A$
C. $\angle A, \angle C, \angle B$
D. $\angle C, \angle B, \angle A$



105. Find the value of x. Then find the measure of each angle.

x = 25 $m\angle B$ = 60 $m\angle C$ = 48



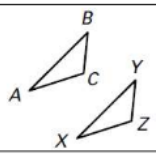
$2(25)+10$

$2(25)-2$

Chapter 5 – Triangle Congruence

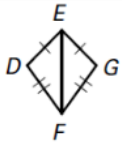
_____ 106. In the figure, $\Delta ABC \cong \Delta XYZ$. Which segment corresponds to $\overline{AC}$?

A. $\overline{BC}$
B. $\overline{YZ}$
C. $\overline{XY}$
D. $\overline{XZ}$



_____ 107. Which postulate or theorem can be used to show $\Delta DEF \cong \Delta GEF$?

A. SSS
B. SAS
C. ASA
D. AAS



$$2x + 10 + 2x - 2 + 72 = 180$$

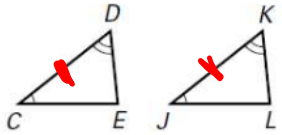
$$4x + 80 = 180$$
$$-80 \quad -80$$

$$\frac{4x}{4} = \frac{100}{4}$$

$$\boxed{x = 25}$$

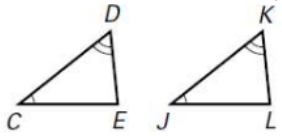
_____ 108. What additional information must be given to be able to show $\Delta CDE \cong \Delta JKL$ by ASA?

A. $\overline{CD} \cong \overline{JK}$
B. $\overline{CE} \cong \overline{JL}$
C. $\overline{DE} \cong \overline{KL}$
D. $\overline{CD} \cong \overline{DE}$



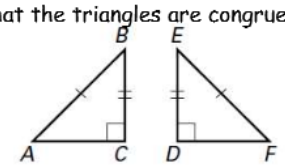
_____ 109. What additional information must be given to be able to show $\Delta CDE \cong \Delta JKL$ by AAS?

A. $\overline{CD} \cong \overline{JK}$
B. $\overline{CE} \cong \overline{JL}$
C. $\overline{DE} \cong \overline{KL}$
D. $\overline{CD} \cong \overline{DE}$



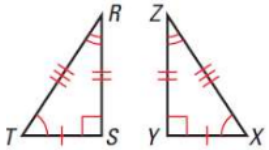
_____ 110. Is there enough information given to show that the triangles are congruent?

A. Yes by SSS
B. Yes by ASA
C. Yes by HL
D. No, there is not enough info



_____ 111. Which congruence statement ***does not*** describe the triangles?

A. $\Delta TSR \cong \Delta XYZ$
B. $\Delta RST \cong \Delta XYZ$
C. $\Delta STR \cong \Delta YXZ$
D. $\Delta TRS \cong \Delta XZY$

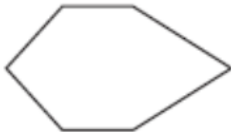


_____ 112. If $\Delta CAT \cong \Delta DOG$, which congruence is ***not true***?

A. $\overline{CT} \cong \overline{DG}$
B. $\angle T \cong \angle G$
C. $\angle A \cong \angle O$
D. $\overline{TA} \cong \overline{OG}$

_____ 113. How many lines of symmetry does the figure have?

A. 0
B. 1
C. 2
D. 3

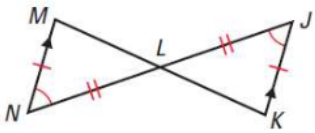


_____ 114. How many lines of symmetry does the figure have?

A. 0
B. 2
C. 1
D. 3

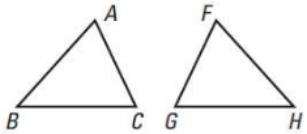
_____ 115. Based on the diagram, which postulate ***cannot*** be used to show that $\Delta JKL \cong \Delta NML$?

A. ASA
B. AAS
C. SAS
D. HL



_____ 116. Given that $\Delta ABC \cong \Delta FHG$, which of the following statements is true?

A. $\overline{AC} \cong \overline{HF}$
B. $\angle A \cong \angle G$
C. $\angle B \cong \angle H$
D. $\overline{BA} \cong \overline{FG}$

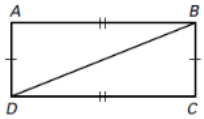


_____ 117. If $\Delta FGH \cong \Delta PQR$, which angle corresponds to $\angle Q$?

A. $\angle R$
B. $\angle G$
C. $\angle F$
D. $\angle H$

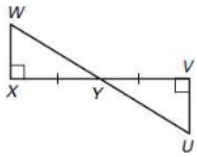
_____ 118. Which postulate or theorem can be used to show $\Delta ABD \cong \Delta CDB$?

A. SSS
B. ASA
C. SAS
D. AAS



_____ 119. Which postulate or theorem can be used to show $\Delta WXY \cong \Delta UVY$?

A. SSS
B. SAS
C. ASA
D. AAS

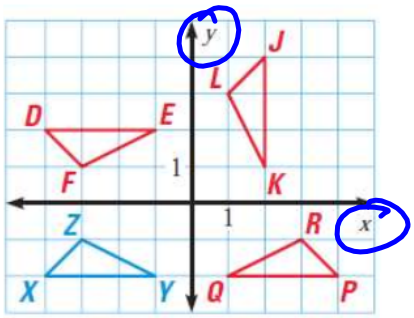


_____ 120. Which triangle shows the image when ΔXYZ is reflected in the y-axis?

A. ΔDEF
B. ΔJKL
C. ΔPQR
D. None of these

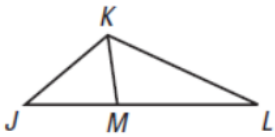
_____ 121. Which triangle shows the image when ΔXYZ is reflected in the x-axis?

A. ΔDEF
B. ΔJKL
C. ΔPQR
D. None of these



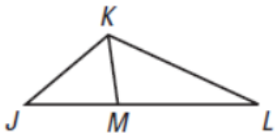
_____ 122. Which angle is included between the sides $\overline{JK}$ and $\overline{JM}$?

A. $\angle L$
B. $\angle JKM$
C. $\angle J$
D. $\angle JMK$



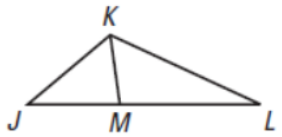
_____ 123. Which angle is included between the sides $\overline{ML}$ and $\overline{KM}$?

A. $\angle KML$
B. $\angle MLK$
C. $\angle L$
D. $\angle LKM$



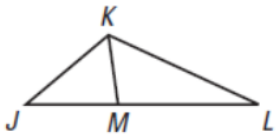
_____ 124. Which side is *included* between the angles $\angle L$ and $\angle LMK$?

A. $\overline{JK}$
B. $\overline{ML}$
C. $\overline{KM}$
D. $\overline{LK}$



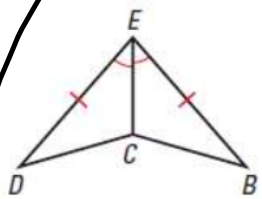
_____ 125. Which side is *included* between the angles $\angle JKM$ and $\angle JMK$?

A. $\overline{JK}$
B. $\overline{ML}$
C. $\overline{KM}$
D. $\overline{LK}$

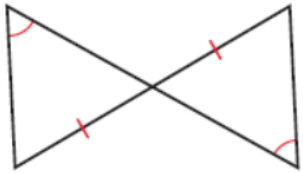


For questions 126-131 determine whether the triangles are congruent by SSS, SAS, AAS, ASA, or HL.

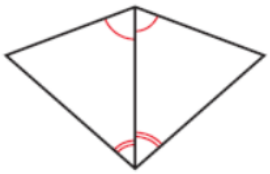
126. _____



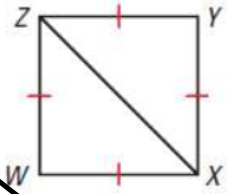
127. _____



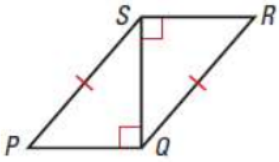
128. _____



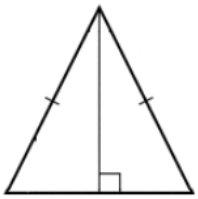
129. _____



130. _____



131. _____



Chapter 4

Classify by ∠'s
- acute: all 3 ∠s acute
- obtuse: 1 ∠ is obtuse
- right: 90° ∠
- equiangular: all ∠'s are equal (each is ∠ is 60°)

*all ∠'s in a Δ add up to 180°

Pythagorean Theorem:

↳ must be a right Δ

$$a^2+b^2=c^2$$

a, b: legs (smaller 2); c: hypotenuse

Distance Formula:

$(2,3)$ $(5,6)$
x_1 y_1 x_2 y_2

$$\sqrt{(x_2-x_1)^2+(y_2-y_1)^2}$$

$x_2 = 5$, $x_1 = 2$, $y_2 = 6$, $y_1 = 3$

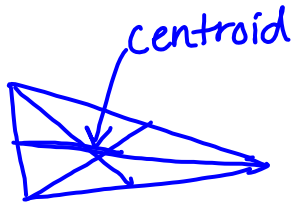
Obtuse:	Right:	Acute:
$a^2+b^2<c^2$	$a^2+b^2=c^2$	$a^2+b^2>c^2$

* The 2 smaller sides of a Δ added together need to be bigger than the third side

Ex: 5, 6, 7

$5+6 \overset{?}{>} 7$

$11 > 7$ yes, it would make a Δ

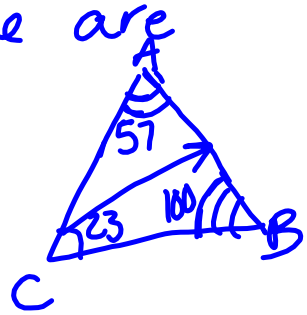


$\frac{1}{3}$ section

$\frac{2}{3}$ section

Smallest ∠ and smallest side are across from each other

smallest: AB



Chapter 5

$\triangle ABC \cong \triangle XYZ$

Name the corresponding parts:

$\angle A \cong \angle X$ $\overline{AB} \cong \overline{XY}$

$\angle B \cong \angle Y$ $\overline{BC} \cong \overline{YZ}$

$\angle C \cong \angle Z$ $\overline{AC} \cong \overline{XZ}$

5 ways to prove a $\triangle \cong$

SSS SAS

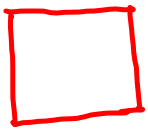
HL AAS

ASA

Don't work:

~~SSA~~

~~AAA~~



→ perfect shape (all sides =) so it has 4 symmetry lines

→ 3 lines of symmetry

included $\angle$ → $\angle$ in between

included side → side in between