Week 26: 2/22-2/26 Math I Due: 2/29

Objectives:

1. To prove and apply theorems about angles.
2. To review contents of Chapter 10.
3. To assess knowledge of Chapter 10.
4.

Monday:

In Class:
Section 10-7: #1-4
10-7 In Class Activity
Homework:
Section 10-7: #5-8, 10, 12-14, 16-25

Tuesday:

In Class:
Chapter 10 Review
Homework:
Complete Chapter 10 Review: TO RECEIVE FULL CREDIT, YOU MUST SHOW YOUR WORK AND TYPE YOUR ANSWERS ON THE PEARSON WEBSITE. THE TEST IS ON YOUR "TO DO" LIST ONLINE.

Wednesday:

Homework:
Study for Chapter 10 Test. You may use the study guide sheet I provided in class.

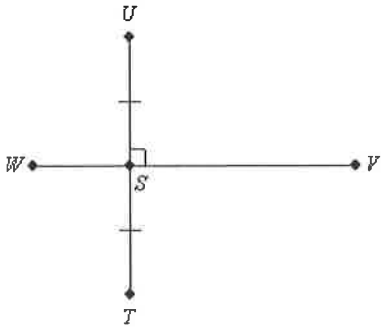
Thursday:

In Class:
Chapter 10 Test
Homework:
Complete "Getting Ready for Chapter 11" on page 651 in text.

Friday:

Homework:
Go to text website: www.pearsonsuccessnet.com
Click on section 11-1 and WATCH online problems 1-3 and complete "Got It's" that follow.
THESE WILL BE CHECKED MONDAY FOR COMPLETION AND POINTS WILL BE DEDUCTED IF NOT COMPLETE.

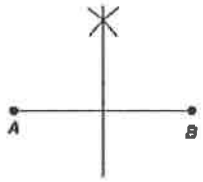
1 $\overline{WV}$ is the _____ of $\overline{UT}$.



A distance
B midpoint
C angle bisector
D perpendicular bisector

2 Which shows the construction of the perpendicular bisector of $\overline{AB}$?

A



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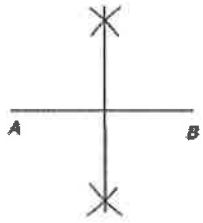

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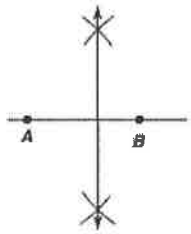

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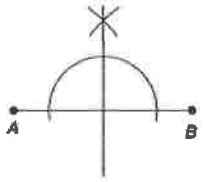


3 Based on the pattern, what are the next two terms of the sequence?
3, 9, 15, 21, . . .

A 126, 756
B 27, 756
C 33, 39
D 27, 33

4 Use inductive reasoning to describe the pattern of each sequence. Then find the next two terms.
1, 2, 5, 6, 9, ...

A alternate adding 1 and 3; 12, 13
B alternate adding 3 and 1; 12, 15
C alternate adding 1 and 3; 10, 13
D alternate adding 3 and 1; 12, 13

5 Based on the pattern, what is the next figure in the sequence?

A 
B 
C 
D 

6 Find a counterexample to show that the conjecture is false.
Conjecture: The product of two positive numbers is greater than the sum of the two numbers.

A 3 and 5
B 2 and 2
C A counterexample exists, but it is not shown above.
D There is no counterexample. The conjecture is true.

7 Which statement is a counterexample for the following conditional?
If you live in Springfield, then you live in Illinois.

A Sara Lucas lives in Springfield.
B Jonah Lincoln lives in Springfield, Illinois.
C Billy Jones lives in Chicago, Illinois.
D Erin Naismith lives in Springfield, Massachusetts.

8 Identify the hypothesis and conclusion of this conditional statement:
If today is Wednesday, then tomorrow is Thursday.

A Hypothesis: Tomorrow is Thursday. Conclusion: Today is Wednesday.
B Hypothesis: Today is Wednesday. Conclusion: Tomorrow is Thursday.
C Hypothesis: Tomorrow is not Thursday. Conclusion: Today is Wednesday.
D Hypothesis: Today is Wednesday. Conclusion: Tomorrow is not Thursday.

9 What is the conclusion of the following conditional?
A number is divisible by 2 if the number is even.

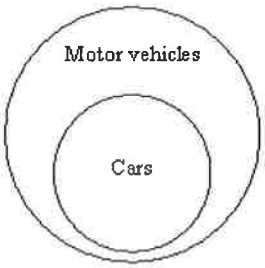
A If a number is even, then the number is divisible by 2.
B The number can be odd or even because when you divide by 2, you get an integer.
C The number is even.
D The number is divisible by 2.

10 Write the following statement as a conditional.
All flowers are beautiful.

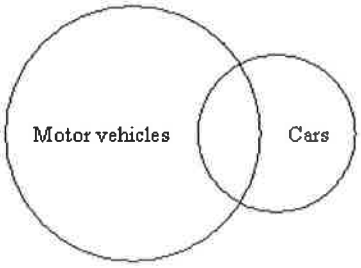
A If something is beautiful, then it is not a flower.
B If something is beautiful, then it is a flower.
C If something is a flower, then it is beautiful.
D If something is not a flower, then it is not beautiful.

11 Draw a Venn diagram to illustrate this conditional.
Cars are motor vehicles.

A



B



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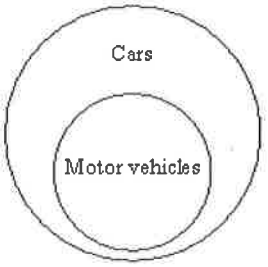

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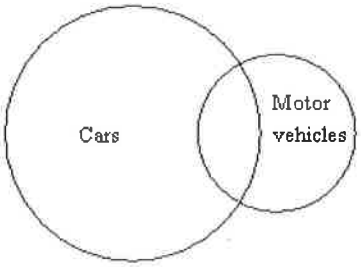


12 A conditional can have a ____ of *true* or *false.*

A hypothesis
B truth value
C counterexample
D conclusion

13 Write the converse.
If you are a teenager, then you are younger than 20.

A If you are not younger than 20, then you are a teenager.
B If you are younger than 20, then you are not a teenager.
C If you are not younger than 20, then you are not a teenager.
D If you are younger than 20, then you are a teenager.

14 Write the contrapositive.
If an angle is obtuse, then its measure is greater than 90 and less than 180.

A If the measure of an angle is not greater than 90 and less than 180, then it is obtuse.
B If the measure of an angle is greater than 90 and less than 180, then it is obtuse.
C If the measure of an angle is greater than 90 and less than 180, then it is not obtuse.
D If the measure of an angle is not greater than 90 and less than 180, then it is not obtuse.

15 Determine the truth value of the statement and its converse.
If an angle is obtuse, then its measure is greater than 90 and less than 180.

A true, true
B true, false
C false, true
D false, false

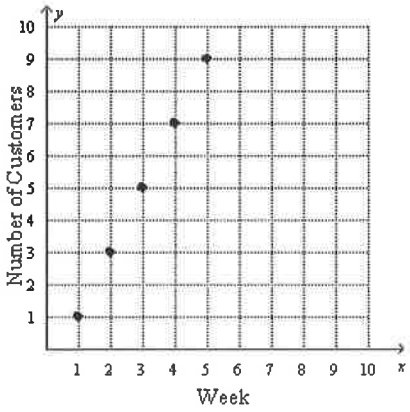
16 If both the conditional and its converse are true, write a biconditional.
If an angle is obtuse, then its measure is greater than 90 and less than 180.

A An angle is obtuse if and only if its measure is greater than 90 and less than 180.
B An angle is not obtuse if and only if its measure is not greater than 90 and less than 180.
C not possible

17 For the following true conditional statement, write the converse. If the converse is also true, combine the statements as a biconditional.
If $x = 9$, then $x^2 = 81$.

A If $x^2 = 81$, then $x = 9$. True; $x = 9$ if and only if $x^2 = 81$.
B If $x^2 = 9$, then $x = 81$. False
C If $x^2 = 81$, then $x = 9$. True; $x^2 = 81$ if and only if $x = 9$.
D If $x^2 = 81$, then $x = 9$. False

18 Mia's Internet Services designs web sites. Mia noticed an increase in her customers over a period of 5 consecutive weeks. Based on the pattern shown in the graph, make a conjecture about the number of customers she will have in the seventh week. Explain.



A 5 customers; this is the average.
B 11 customers; she adds 2 per week.
C 13 customers; she adds 2 each week.
D 18 customers; it doubles each week.

19 Use inductive reasoning to describe the pattern of the sequence. Then find the next two terms.
6, 24, 96, 384, ...

A Multiply by 3; 672, 960.
B Multiply by 4.5; 402, 420.
C Multiply by 4; 1536, 6144.
D Multiply by 3.5; 576, 764.

20 Use inductive reasoning to describe the pattern of the sequence. Then find the next two terms.
2, 4, 8, 16, 32, ...

A Add 16; 48, 64.
B Multiply by 2; 64, 128.
C Add 2; 34, 36.
D Multiply by 2; 64, 118.

21 Which statement is a counterexample?
A square is a figure with four congruent sides.

A A six-sided figure can have four sides congruent.
B Some triangles have all sides congruent.
C A square has four congruent angles.
D A rectangle has four sides.

22 Find a counterexample.
If two lines are parallel, then they do not intersect.

A If two lines do not intersect, they could be skew.
B If two lines are parallel, they may intersect twice.
C If two lines are parallel, they intersect once.
D The statement is true. There is no counterexample.

23 Determine the truth value of the statement and its converse.
If a figure is a square, then it has four sides.

A true, true
B true, false
C false, true
D false, false

24 Is the statement a good definition? If not, find a counterexample.
A square is a figure with two pairs of parallel sides and four right angles.

A The statement is a good definition.
B No; a rhombus is a counterexample.
C No; a rectangle is a counterexample.
D No; a parallelogram is a counterexample.

25 Fill in the reason that justifies the step to solve for x in the diagram.
Given: $QS = 42$
$QR + RS = QS$

A Division Property of Equality
B Segment Addition Postulate
C Simplify.

26 Fill in the reason that justifies the step to solve for x in the diagram.
Given: $QS = 42$
$x + 3 + 2x = 42$

A Substitution Property
B Segment Addition Postulate
C Simplify.

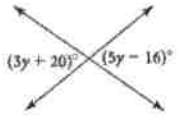
27 Use the given property to complete the statement.
Addition Property of Equality
If $x = 5$, then $x + 3 =$ ____.

A 8
B 0
C –2
D –8

28 Use the given property to complete the statement.
Division Property of Equality
If $2(AX) = 2(BY)$, then $AX =$ ____.

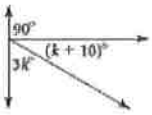
A 4
B BY
C $\frac{1}{2}BY$
D $BY + 2$

29 Find the value of the variable.



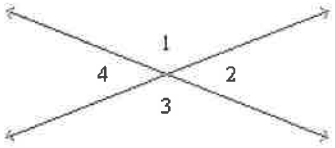
A 2
B 18
C $\frac{1}{2}$
D $4\frac{1}{2}$

30 Find the value of the variable.



A $8\frac{3}{4}$
B 25
C 20
D 40

31 $m\angle 3 = 57$. Find $m\angle 1$.



A 123
B 133
C 57
D 47

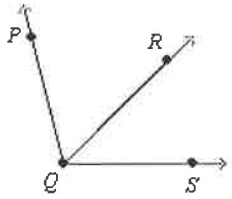
32 Use the Law of Detachment to make a conclusion.
If you practice table tennis every day, you will become a better player. Lucy practices table tennis every day.

A Lucy will develop strong arms.
B Lucy's homework will be neglected.
C Lucy will become a better player.
D Lucy will grow tired of table tennis.

33 Use the Law of Syllogism to make a conclusion.
If the weather is wet, the Huskies will not play soccer. If the Huskies do not play soccer, Nathan can stop at the ice cream shop.

A If it is sunny, then Nathan can stop at the ice cream shop.
B If the Huskies do not play soccer, then the weather is wet.
C If the weather is wet, then Nathan can stop at the ice cream shop.
D If Nathan stops at the ice cream shop, then the weather is wet.

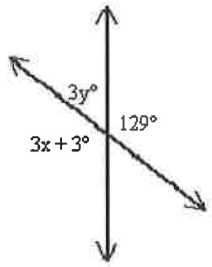
34 Fill in each missing reason.
Given: $m\angle PQR = x - 7$, $m\angle SQR = x - 1$, and $m\angle PQS = 100$.
Find x.



$m\angle PQR + m\angle SQR = m\angle PQS$		**a.** _____
$x - 7 + x - 1 = 100$		**b.** Substitution Property
$2x - 8 = 100$		**c.** Simplify.
$2x = 108$		**d.** _____
$x = 54$		**e.** Division Property of Equality

A Angle Addition Postulate; Subtraction Property of Equality
B Protractor Postulate; Addition Property of Equality
C Protractor Postulate; Subtraction Property of Equality
D Angle Addition Postulate; Addition Property of Equality

35 Find the values of x and y.



A $x = 51, y = 129$
B $x = 129, y = 51$
C $x = 42, y = 17$
D $x = 17, y = 42$