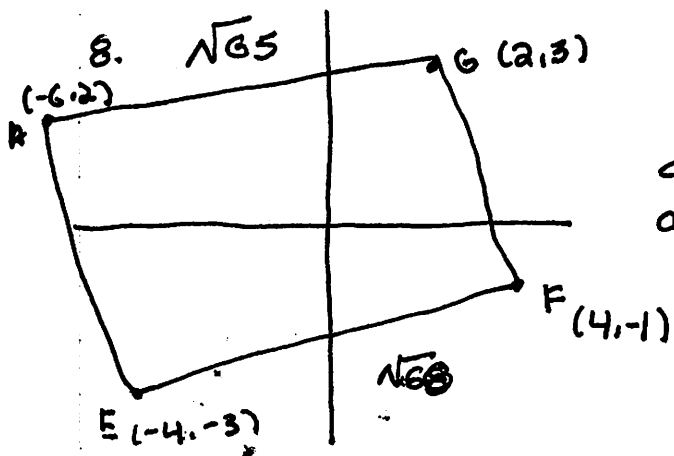
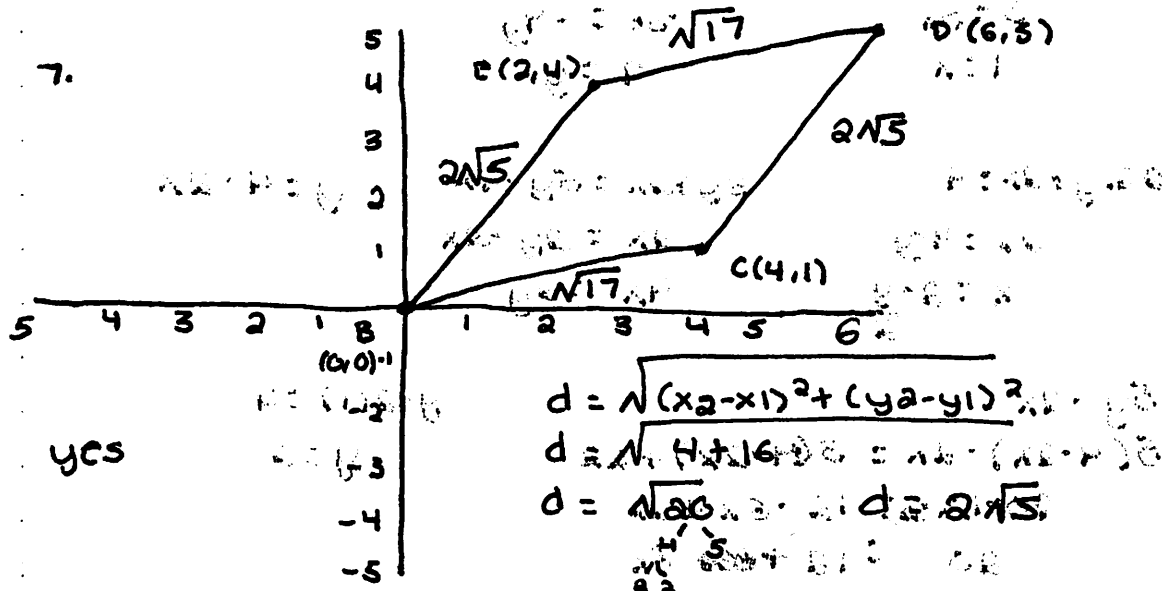


6.3 homework

section 6.3 #'s 7-14, 20-22



$$d = \sqrt{8^2 + 2^2}$$

$$d = \sqrt{64 + 4}$$

$$d = \sqrt{68}$$

$$d = \sqrt{8^2 + 1^2}$$

$$d = \sqrt{64 + 1}$$

$$d = \sqrt{65}$$

9. yes, the opposite $\angle$'s are $\cong$.

10. yes, the diagonals bisect each other.

11. yes, the opposite $\angle$'s are $\cong$.

12. No, because only one opposite side is $\cong$ not both opposite sides.

13. yes, the opposite sides are congruent and parallel.

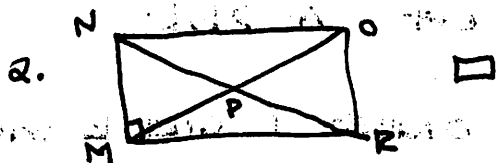
14. No, because only one diagonal is bisected and only one opposite side is congruent.

20. $3y = 46 - y$ $y = 24$
 $4y = 96$

$5x - 18 = 2x$ $x = 6$
 $-18 = -3x$

6.4 homework

section 6.4 #3 2-22 even, 3a



$$NR = 2x + 10$$

$$NP = 2x - 30$$

MP = 2x - 30 because NP and MP are $\cong$ diagonals.

4. $3x + 11 + 3x + 11 + x = 180$

$$7x + 22 = 180$$

$$7x = 158$$

$$x =$$

$$3x + 11 + x = 90$$

$$4x = 79$$

6. H(-5, 1)

$$\sqrt{17}$$



$$E(-4, -3)$$

$$G(2, 3)$$

$$\sqrt{13}$$

$$F(3, -1)$$

$$d = \sqrt{1^2 + 4^2}$$

$$d = \sqrt{17}$$

$$d = -1^2 + 4^2$$

$$d = \sqrt{17}$$

$$\frac{y_2 - y_1}{x_2 - x_1}$$

$$= \frac{3 + 1}{3 - 2} = \frac{4}{1} = 4$$

$$\frac{-3 - 1}{-4 - 5} = \frac{-4}{-9} = \frac{4}{9}$$

not rectangle because $\overline{GF}$ and $\overline{HE}$ are not parallel.

8. $2x + 3 = 5x - 9$ $\angle Q = 11$

$$3 = 3x - 9$$

$$12 = 3x$$

$$4 = x$$

10. $2x - 3 + x + 5 = 90$

$$3x + 2 = 90$$

$$3x = 88$$

$$x = 29$$

12. $2x^2 + 12 + 14x = 90$

$$16x^2 + 21 = 90$$

$$16x^2 = 69$$

$$x^2 = \frac{69}{16}$$

$$x = \pm \sqrt{\frac{69}{16}}$$

14. $m\angle 3 = 60^\circ$

16. $m\angle 5 = 30$

$$x^2 + 7x - 44 = 0$$

18. $m\angle 7 = 60$

20. $m\angle 9 = 60$

$$(x + 11)(x - 4) = 0$$

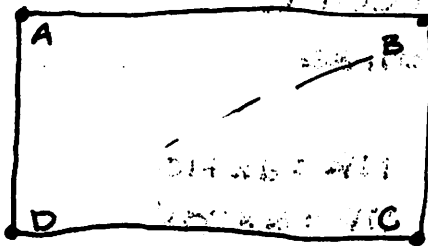
22.



$$x = -11 \quad \boxed{x = 4}$$

both opposite sides are congruent, and all $\angle$'s are 90° . The diagonals are bisected congruent.

32.



6pt AC2BD

stakes L and K must be moved toward D and C to make side AC shorter, making it $\approx$

side BD

BD

side AC
side BD
side AC
side BD

side AC
side BD
side AC
side BD

side AC
side BD
side AC
side BD

side AC
side BD
side AC
side BD



G.6 homework

section 6.6 #s 2, 10-12, 20-22

2. Trapezoids, rectangles, rhombi, squares

10. S R

$$\overline{AD} \cong \overline{DB}$$

given

$$\overline{DE} \cong \overline{DC}$$

def of $\cong$ seg

$$\overline{EA} \cong \overline{CB}$$

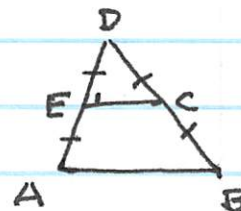
def of midpoint

ABCE
isosceles

if legs are $\cong$, then

it is an isosceles

trapezoid.



11. contains all but trapezoids.

12. parallelograms, triangles, rectangles.

$$20. m\angle Q \leq 60^\circ \quad m\angle S = 135^\circ$$

$$AB = \frac{1}{2}(12 + 20) \quad AB = 16$$

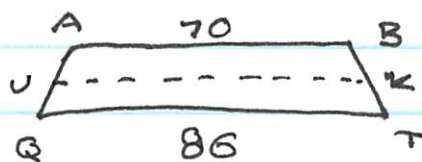
$$= \frac{1}{2}(32) = 16$$

21. 62

$$22. AB = 140 \div 2 = 70$$

$$70 + 86 = 156 \div 2$$

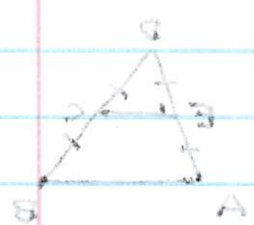
$$= JK = 78$$



C.E. HOMEWORK

section 2.10-12, 20-22

2. Trapezoids, rectangles, rhombi, squares



Given	10. 2
$\overline{AD} \cong \overline{BE}$	$\overline{AD} \cong \overline{BE}$
$\overline{DE} \parallel \overline{AC}$	$\overline{DE} \parallel \overline{AC}$
$\overline{DE} \parallel \overline{AC}$	$\overline{DE} \parallel \overline{AC}$
if $\overline{DE} \parallel \overline{AC}$, then	ABCE
it is an isosceles	trapezoid
trapezoid	

EC || AB
if corresponding
sides are
the lines
are ||

1. contains all four trapezoids.
12. parallelograms, rectangles, squares

$$90. \text{ mid } \overline{AC}, \text{ mid } \overline{BC}, \text{ mid } \overline{AB}$$

$$AB = \frac{1}{2}(12+20) = 16$$

$$21 = \frac{1}{2}(22)$$

$$34 = 2$$

$$99. AB = 140/2 = 70 \quad 20 + 28 = 48 \div 2 = 24$$

$$27 = 28$$

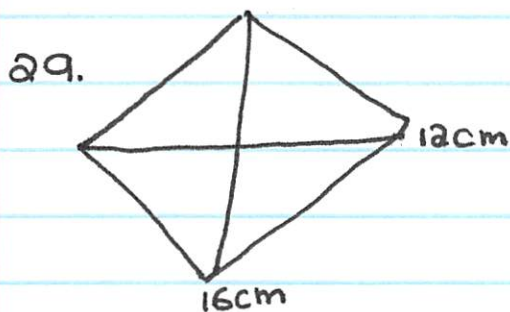


10

6.5 homework

section 6.5 #'s 8, 29-35

8.  The measure of the diagonals should also be measured to determine whether the floor is a square. Make sure each angle = 90°.



$$6^2 + 8^2 + \cancel{10^2} = c^2$$

$$36 + 64 = c^2$$

$$100 = c^2$$

$$10 = c$$

the perimeter of the rhombus is 40 cm.

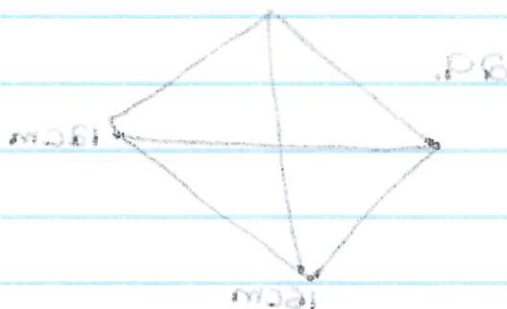
sometimes
30. ~~never~~

31. ~~sometimes~~ always

32. always 33. ^{never} sometimes 34. sometimes

35. True. The $\angle$'s all must measure 90°, and the opposite sides are $\cong$

25-06, 25-07, 25-08, 25-09, 25-10, 25-11, 25-12, 25-13, 25-14, 25-15, 25-16, 25-17, 25-18, 25-19, 25-20, 25-21, 25-22, 25-23, 25-24, 25-25, 25-26, 25-27, 25-28, 25-29, 25-30, 25-31, 25-32, 25-33, 25-34, 25-35, 25-36, 25-37, 25-38, 25-39, 25-40, 25-41, 25-42, 25-43, 25-44, 25-45, 25-46, 25-47, 25-48, 25-49, 25-50, 25-51, 25-52, 25-53, 25-54, 25-55, 25-56, 25-57, 25-58, 25-59, 25-60, 25-61, 25-62, 25-63, 25-64, 25-65, 25-66, 25-67, 25-68, 25-69, 25-70, 25-71, 25-72, 25-73, 25-74, 25-75, 25-76, 25-77, 25-78, 25-79, 25-80, 25-81, 25-82, 25-83, 25-84, 25-85, 25-86, 25-87, 25-88, 25-89, 25-90, 25-91, 25-92, 25-93, 25-94, 25-95, 25-96, 25-97, 25-98, 25-99, 25-100, 25-101, 25-102, 25-103, 25-104, 25-105, 25-106, 25-107, 25-108, 25-109, 25-110, 25-111, 25-112, 25-113, 25-114, 25-115, 25-116, 25-117, 25-118, 25-119, 25-120, 25-121, 25-122, 25-123, 25-124, 25-125, 25-126, 25-127, 25-128, 25-129, 25-130, 25-131, 25-132, 25-133, 25-134, 25-135, 25-136, 25-137, 25-138, 25-139, 25-140, 25-141, 25-142, 25-143, 25-144, 25-145, 25-146, 25-147, 25-148, 25-149, 25-150, 25-151, 25-152, 25-153, 25-154, 25-155, 25-156, 25-157, 25-158, 25-159, 25-160, 25-161, 25-162, 25-163, 25-164, 25-165, 25-166, 25-167, 25-168, 25-169, 25-170, 25-171, 25-172, 25-173, 25-174, 25-175, 25-176, 25-177, 25-178, 25-179, 25-180, 25-181, 25-182, 25-183, 25-184, 25-185, 25-186, 25-187, 25-188, 25-189, 25-190, 25-191, 25-192, 25-193, 25-194, 25-195, 25-196, 25-197, 25-198, 25-199, 25-200, 25-201, 25-202, 25-203, 25-204, 25-205, 25-206, 25-207, 25-208, 25-209, 25-210, 25-211, 25-212, 25-213, 25-214, 25-215, 25-216, 25-217, 25-218, 25-219, 25-220, 25-221, 25-222, 25-223, 25-224, 25-225, 25-226, 25-227, 25-228, 25-229, 25-230, 25-231, 25-232, 25-233, 25-234, 25-235, 25-236, 25-237, 25-238, 25-239, 25-240, 25-241, 25-242, 25-243, 25-244, 25-245, 25-246, 25-247, 25-248, 25-249, 25-250, 25-251, 25-252, 25-253, 25-254, 25-255, 25-256, 25-257, 25-258, 25-259, 25-260, 25-261, 25-262, 25-263, 25-264, 25-265, 25-266, 25-267, 25-268, 25-269, 25-270, 25-271, 25-272, 25-273, 25-274, 25-275, 25-276, 25-277, 25-278, 25-279, 25-280, 25-281, 25-282, 25-283, 25-284, 25-285, 25-286, 25-287, 25-288, 25-289, 25-290, 25-291, 25-292, 25-293, 25-294, 25-295, 25-296, 25-297, 25-298, 25-299, 25-300, 25-301, 25-302, 25-303, 25-304, 25-305, 25-306, 25-307, 25-308, 25-309, 25-310, 25-311, 25-312, 25-313, 25-314, 25-315, 25-316, 25-317, 25-318, 25-319, 25-320, 25-321, 25-322, 25-323, 25-324, 25-325, 25-326, 25-327, 25-328, 25-329, 25-330, 25-331, 25-332, 25-333, 25-334, 25-335, 25-336, 25-337, 25-338, 25-339, 25-340, 25-341, 25-342, 25-343, 25-344, 25-345, 25-346, 25-347, 25-348, 25-349, 25-350, 25-351, 25-352, 25-353, 25-354, 25-355, 25-356, 25-357, 25-358, 25-359, 25-360, 25-361, 25-362, 25-363, 25-364, 25-365, 25-366, 25-367, 25-368, 25-369, 25-370, 25-371, 25-372, 25-373, 25-374, 25-375, 25-376, 25-377, 25-378, 25-379, 25-380, 25-381, 25-382, 25-383, 25-384, 25-385, 25-386, 25-387, 25-388, 25-389, 25-390, 25-391, 25-392, 25-393, 25-394, 25-395, 25-396, 25-397, 25-398, 25-399, 25-400, 25-401, 25-402, 25-403, 25-404, 25-405, 25-406, 25-407, 25-408, 25-409, 25-410, 25-411, 25-412, 25-413, 25-414, 25-415, 25-416, 25-417, 25-418, 25-419, 25-420, 25-421, 25-422, 25-423, 25-424, 25-425, 25-426, 25-427, 25-428, 25-429, 25-430, 25-431, 25-432, 25-433, 25-434, 25-435, 25-436, 25-437, 25-438, 25-439, 25-440, 25-441, 25-442, 25-443, 25-444, 25-445, 25-446, 25-447, 25-448, 25-449, 25-450, 25-451, 25-452, 25-453, 25-454, 25-455, 25-456, 25-457, 25-458, 25-459, 25-460, 25-461, 25-462, 25-463, 25-464, 25-465, 25-466, 25-467, 25-468, 25-469, 25-470, 25-471, 25-472, 25-473, 25-474, 25-475, 25-476, 25-477, 25-478, 25-479, 25-480, 25-481, 25-482, 25-483, 25-484, 25-485, 25-486, 25-487, 25-488, 25-489, 25-490, 25-491, 25-492, 25-493, 25-494, 25-495, 25-496, 25-497, 25-498, 25-499, 25-500, 25-501, 25-502, 25-503, 25-504, 25-505, 25-506, 25-507, 25-508, 25-509, 25-510, 25-511, 25-512, 25-513, 25-514, 25-515, 25-516, 25-517, 25-518, 25-519, 25-520, 25-521, 25-522, 25-523, 25-524, 25-525, 25-526, 25-527, 25-528, 25-5



rhombus is 70 cm.

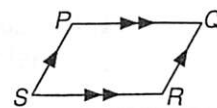
90° and the opposite sides are 2
90° true. The 1st all must measure
90° always 33. sometimes 34. sometimes
30. never 31. sometimes 32. always
30. never 31. sometimes 32. always

6-2

Study Guide and Intervention

Parallelograms

Sides and Angles of Parallelograms A quadrilateral with both pairs of opposite sides parallel is a **parallelogram**. Here are four important properties of parallelograms.



	If PQRS is a parallelogram, then
The opposite sides of a parallelogram are congruent.	$\overline{PQ} \cong \overline{SR}$ and $\overline{PS} \cong \overline{QR}$
The opposite angles of a parallelogram are congruent.	$\angle P \cong \angle R$ and $\angle S \cong \angle Q$
The consecutive angles of a parallelogram are supplementary.	$\angle P$ and $\angle S$ are supplementary; $\angle S$ and $\angle R$ are supplementary; $\angle R$ and $\angle Q$ are supplementary; $\angle Q$ and $\angle P$ are supplementary.
If a parallelogram has one right angle, then it has four right angles.	If $m\angle P = 90$, then $m\angle Q = 90$, $m\angle R = 90$, and $m\angle S = 90$.

Example

If $ABCD$ is a parallelogram, find a and b .

$\overline{AB}$ and $\overline{CD}$ are opposite sides, so $\overline{AB} \cong \overline{CD}$.

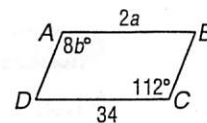
$$2a = 34$$

$$a = 17$$

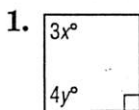
$\angle A$ and $\angle C$ are opposite angles, so $\angle A \cong \angle C$.

$$8b = 112$$

$$b = 14$$

**Exercises**

Find x and y in each parallelogram.



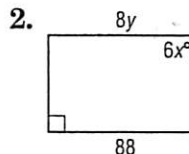
$$3x = 90$$

$$x = 30$$

$$4y + 90 = 180$$

$$4y = 90$$

$$y = 22.5$$

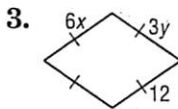


$$6x = 90$$

$$x = 15$$

$$8y = 88$$

$$y = 11$$

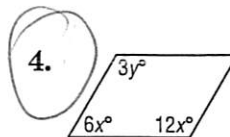


$$3y = 12$$

$$y = 4$$

$$6x = 12$$

$$x = 2$$



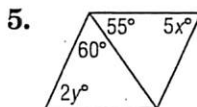
$$6x + 12x = 180$$

$$18x = 180$$

$$x = 10$$

$$120 = 3y$$

$$40 = y$$



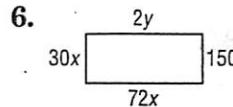
$$5x + 55 + 60 = 180$$

$$5x = 65$$

$$x = 13$$

$$2y = 65$$

$$y = 32.5$$



$$30x = 150$$

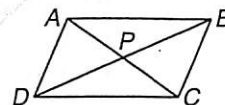
$$x = 5$$

$$2y = 360$$

$$y = 180$$

6-2 Study Guide and Intervention (continued)**Parallelograms**

Diagonals of Parallelograms Two important properties of parallelograms deal with their diagonals.

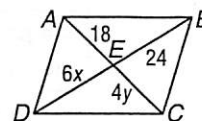


	If $ABCD$ is a parallelogram, then:
The diagonals of a parallelogram bisect each other.	$AP = PC$ and $DP = PB$
Each diagonal separates a parallelogram into two congruent triangles.	$\triangle ACD \cong \triangle CAB$ and $\triangle ADB \cong \triangle CBD$

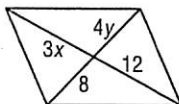
ExampleFind x and y in parallelogram $ABCD$.The diagonals bisect each other, so $AE = CE$ and $DE = BE$.

$$6x = 24 \quad 4y = 18$$

$$x = 4 \quad y = 4.5$$

**Exercises**Find x and y in each parallelogram.

1.



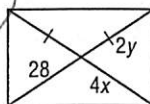
$$3x = 12$$

$$x = 4$$

$$4y = 8$$

$$y = 2$$

2.



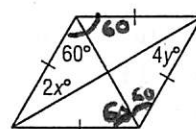
$$2y = 28$$

$$y = 14$$

$$28 = 4x$$

$$7 = x$$

3.



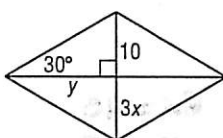
$$60 = 4y$$

$$15 = y$$

$$60 = 2x$$

$$30 = x$$

4.

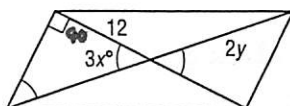


$$3x = 10$$

$$x = 3.3$$

$$y = 10$$

5.



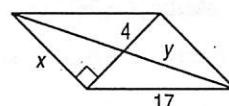
$$40 = 3x \div 2$$

$$15 = x$$

$$2y = 12$$

$$y = 6$$

6.



$$4y = 4$$

$$y = 1$$

$$x = 17$$

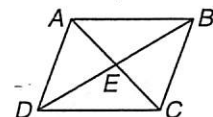
Complete each statement about $\square ABCD$.
Justify your answer.

7. $\angle BAC \cong \angle BCA$

8. $\overline{DE} \cong \overline{BE}$

9. $\triangle ADC \cong \triangle ABC$

10. $\overline{AD} \parallel \overline{BC}$



6-1

Study Guide and Intervention

Angles of Polygons

Sum of Measures of Interior Angles The segments that connect the nonconsecutive sides of a polygon are called **diagonals**. Drawing all of the diagonals from one vertex of an n -gon separates the polygon into $n - 2$ triangles. The sum of the measures of the interior angles of the polygon can be found by adding the measures of the interior angles of those $n - 2$ triangles.

Interior Angle Sum Theorem

If a convex polygon has n sides, and S is the sum of the measures of its interior angles, then $S = 180(n - 2)$.

Example 1

A convex polygon has 13 sides. Find the sum of the measures of the interior angles.

$$\begin{aligned} S &= 180(n - 2) \\ &= 180(13 - 2) \\ &= 180(11) \\ &= 1980 \end{aligned}$$

Example 2

The measure of an interior angle of a regular polygon is 120. Find the number of sides.

The number of sides is n , so the sum of the measures of the interior angles is $120n$.

$$\begin{aligned} S &= 180(n - 2) \\ 120n &= 180(n - 2) \\ 120n &= 180n - 360 \\ -60n &= -360 \\ n &= 6 \end{aligned}$$

Exercises

Find the sum of the measures of the interior angles of each convex polygon.

1. 10-gon $S = 180(10 - 2)$
 $S = 1440$

2. 16-gon $S = 180(16 - 2)$
 $S = 2520$

3. 30-gon $S = 180(30 - 2)$
 $S = 5040$

4. 8-gon $S = 180(8 - 2)$
 $S = 1080$

5. 12-gon $S = 180(12 - 2)$
 $S = 1800$

6. $3x$ -gon $S = 180(3x - 2)$
 $S = 540$
 $S = 540 - 360$
 $S = 180$

The measure of an interior angle of a regular polygon is given. Find the number of sides in each polygon.

7. 150 $150n = 180(n - 2)$
 $150n = 180n - 360$
 $0 = 30n - 360$
 $260 = 30n$
 $12 = n$

8. 160 $160n = 180(n - 2)$
 $0 = 20n - 360$
 $360 = 2n$
 $180 = n$

9. 175 $175n = 180(n - 2)$
 $360 = 5n$
 $72 = n$

10. 165

$165n = 180n - 360$
 $360 = 15n$
 $24 = n$

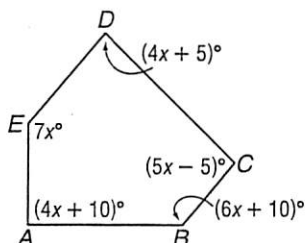
11. 168.75 $n = 12$

$168.75n = 180n - 360$
 $360 = 11.25n$
 $32 = n$

12. 135

$135n = 180n - 360$
 $360 = 45n$
 $8 = n$

13. Find x .



$540 = 4x + 10 + 7x + 4x + 10 + 6x + 10 + 5x$
 $540 = 26x + 20$
 $520 = 26x$
 $20 = x$

SECRET

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excused
absence

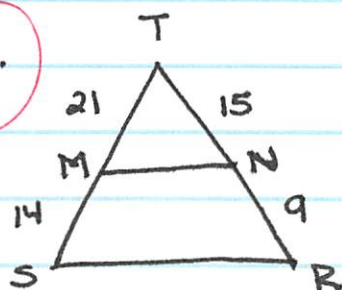
Brady Eochon
2-17-14
Period 0

Chapter Review

Page 426 #'s 16-19

7-4 : Parallel lines and proportional parts

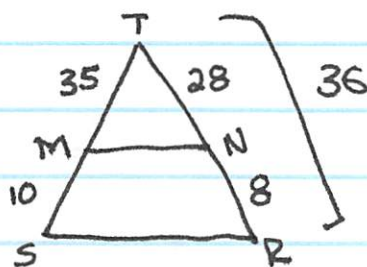
16.



$$\frac{15}{21} = \frac{9}{14}$$
$$210 \neq 189$$

no, $\overline{MN}$ is not $\parallel$
to $\overline{SR}$.

17.

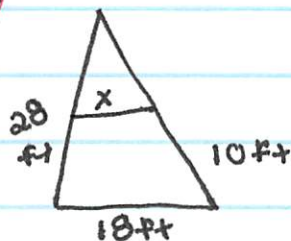


$$\frac{28}{35} = \frac{8}{10}$$

yes, $\overline{MN} \parallel$ to
 $\overline{SR}$.

$$280 = 280$$

18.



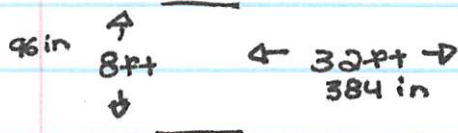
$$18 \div 2 = x$$

$$9 = x$$

$$10.5$$

7-5: Parts of similar triangles

19.



$$\frac{5.25}{96} = \frac{x}{384}$$

$$96x = 2016$$

$$x = 21 \text{ inches}$$

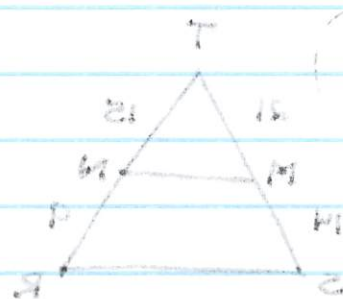
$$x = 21 \text{ in}$$

absences
excused

Chapter Review

Page #2 18-19

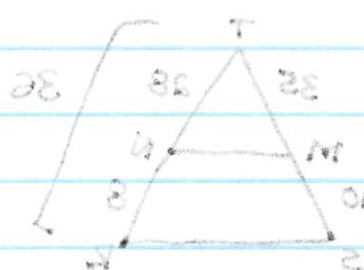
7-4: Parallel lines and proportional parts



$$\frac{TM}{MQ} = \frac{RN}{NT}$$

$$\frac{12}{12} = \frac{14}{14}$$

of $\overline{MN}$ is $\frac{1}{2}$ of $\overline{QR}$



$$\frac{32}{28} = \frac{10}{8}$$

$$384 = 280$$

of $\overline{MN}$ is $\frac{3}{10}$ of $\overline{QR}$



$$\frac{x}{12} = \frac{12}{18}$$

$$x = 8$$

7-5: Ratio of similar triangles



$$\frac{384}{12} = \frac{x}{2}$$

$$384 = 6x$$

$$64 = x$$

$$\frac{384}{12} = \frac{x}{2}$$

$$384 = 6x$$

$$64 = x$$