Formal Geometry Assignments 2024
Chapter 6: QUADRILATERALS

Day	Date	Assignment (Due the next class meeting)
Friday Monday	3/1/24 (A) 3/4/24 (B)	6.2 p.438 #18 – 21, 34, 46 – 48 **6.2 Extra Problems**
Tuesday Wednesday	3/5/24 (A) 3/6/24 (B)	6.3 p 448 # 9, 10, 12, 13, 14, 19, 21, 22, 24, 46, 48 **6.3 Extra Problems**
Thursday Friday	3/7/24 (A) 3/8/24 (B)	6.4 p.456 #15 – 18, 22, 39, 50 **6.4 Extra Problems**
Monday Tuesday	3/11/24 (A) 3/12/24 (B)	6.5 p.465 #12, 19, 22 – 30 even, 48, 51 **6.5 Extra Problems**
Wednesday Thursday	3/13/24 (A) 3/14/24 (B)	6.1 p 427 #12 – 28 even, 32 – 35, 55, 57 6.6 p.474 #16, 18, 24, 25, 42, 44
Friday Monday	3/15/24 (A) 3/18/24 (B)	Ch 6 Review Worksheet
Tuesday Wednesday	3/19/24 (A) 3/20/24 (B)	STUDY
Thursday Friday	3/21/24 (A) 3/22/24 (B)	**Ch 6 Test in class**

Looking for textbook answers?
Go to www.washoeschools.net/DRHSmath
and choose Formal Geometry.
(*Flashcards to help study the properties of Quadrilaterals can also be found on the website)

*Each problem will be worth 1 point unless specified.
*All assignments must be complete the day that they are due to receive full credit, this means:
    *Every problem must be attempted with the picture drawn and work shown.
    * None of the proofs can be left blank
*Corrections are expected to be done to earn back points missed for each assignment.
    *Corrections will be done on a separate sheet of paper and collected the day of the test.

*Need Help? Go to www.khanacademy.org

6.2 Extra Problems

1) What is the measure of HJ in Parallelogram *FGHJ* ?

$FG = 2x - 8$

$GH = 4x + 3$

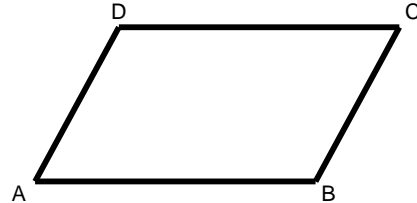$m\angle F = 52°$

$m\angle H = (3x + 10)°$

2) Which of the following is **not** always true of Parallelogram *ABCD* ?

A. $\overline{AB} \cong \overline{DC}, \overline{AD} \cong \overline{BC}$

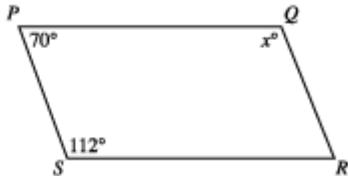B. $\overline{AC} \cong \overline{DB}$

C. $m\angle A + m\angle B = 180°$

D. $AB + BC = AD + DC$

3) Given points $B(-5,\ 3)$, $C(3,\ 4)$, and $D(4, -2)$. What are the coordinates for point A in order for the quadrilateral ABCD to be a parallelogram ?

4) A rectangle with a perimeter of 30 cm is twice as long as it is wide. What is the area of the rectangle in square cm?

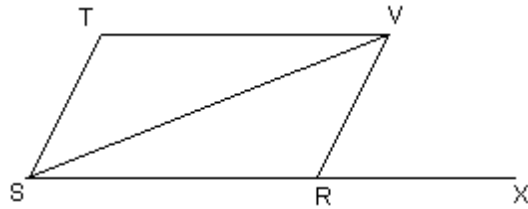5) In quadrilateral PQRS below, what value of x would make PS // QR?
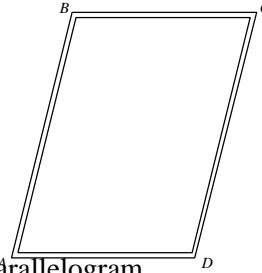
6.3 Extra Problems

Proof:

1) Given: $\angle XRV \cong \angle RST, \angle RSV \cong \angle TVS$

Prove: $RSTV$ is a parallelogram

2) A wooden frame has screws at *A*, *B*, *C*, and *D* so that the sides of it can be pressed to change the angles occurring at each vertex. $\overline{AB} \cong \overline{CD}$ and $\overline{AB} \parallel \overline{CD}$, even when the angles change. Why is the frame always a parallelogram?

    A.   The angles always stay the same, so *ABCD* is a parallelogram.

    B.   All sides are congruent, so *ABCD* is a parallelogram.

    C.   One pair of opposite sides is congruent and parallel, so *ABCD* is a parallelogram.

   D.   One pair of opposite sides is congruent, so *ABCD* is a parallelogram

3) In the figure below, points A and B are on opposite banks of a small stream. Point C is on the same side of the stream as point B and approximately 18 meters from B. The measure of $\angle CBA$ is 45°, and the measure of $\angle BCA$ is 60°. Which of the following expressions gives the approximate distance, in meters, between points A and B?

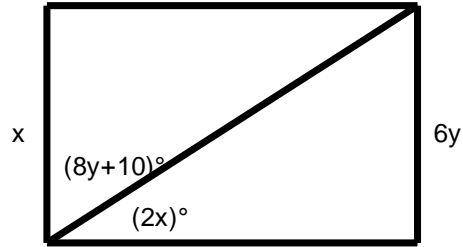A) $\dfrac{\sin 60}{18 \sin 45}$

B) $\dfrac{\sin 60}{18 \sin 75}$

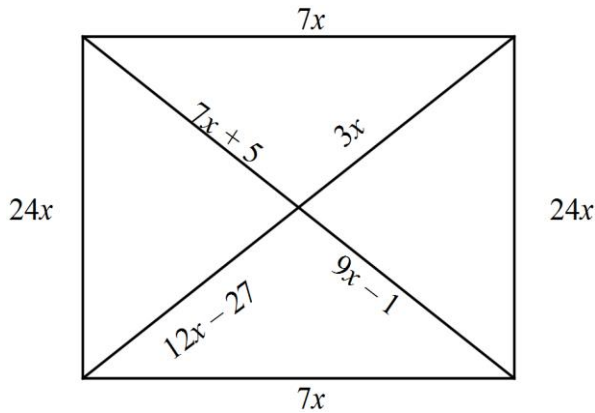C) $\dfrac{\sin 60}{18 \sin 45}$

D) $\dfrac{18 \sin 60}{\sin 75}$

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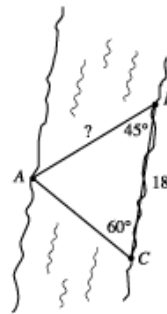
6.4 Extra Problems

1) What is the value of *x* in the rectangle?

x

(8y+10)°

6y

(2x)°

2) Based on the figure, which of the following are true? Choose all that apply:

7x

7x + 5

3x

24x

24x

12x − 27

9x − 1

7x

I. The figure is a rhombus

II. The figure is a parallelogram

III. 7x +5 + 9x+1 = 25x

IV. 12x − 27 = 3x

V. 9x+1 = 12x -27

VI. The longest side of the quadrilateral is 72

3) Given rectangle ABCD with $m\angle BCA = 60$. If AC = 12, then find the perimeter of the rectangle. Exact answers, only (no decimals).

A

D

B

C
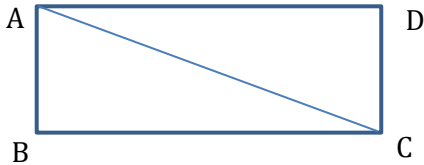
4) Quadrilateral ABCD is drawn on a coordinate system as shown below, with points E and F on segment AD. Point G is the center of rectangle BCEF. Find the length of AG. Exact answers only.

B(6 4)

C

G

A (0 0)

F
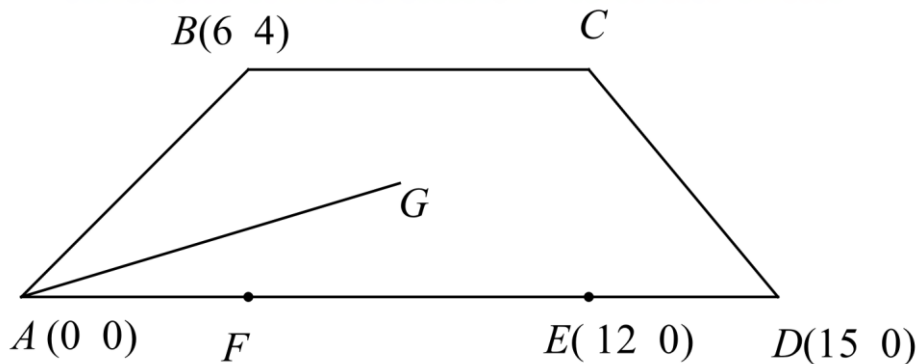
E(12 0)

D(15 0)

Given points: A (0, 0), B (6, 4), D (15, 0), and E (12, 0)

6.5 Extra Problems

For #1 – 5, Sometimes, Always, or Never true?

1. If a quadrilateral is a rectangle, then it is a square.

2. If the diagonals of a parallelogram are congruent, then it is a rectangle.

3. If the diagonals of a parallelogram bisect each other, then it is a square.

4. If one pair of opposite sides of a quadrilateral are both parallel and congruent, then it is a parallelogram.

5. If the diagonals of a quadrilateral are perpendicular, then it is a rhombus.

6) Find the perimeter of the rhombus.

60°

$6\sqrt{3}$
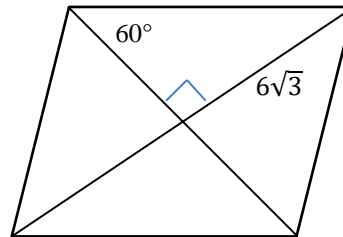
7) Use slope or the distance formula to determine the most precise name for the figure with the following vertices:
$A(-5, -6), B(-1, -1), C(4, 3), D(0, -2)$.

8) Consider the shape shown, which has a larger square and a smaller square. How much larger is the area of the larger square than the area of the smaller square, in terms of x and c?
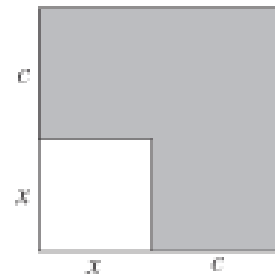
Selected Answers:

6.2:	1) 20	2) B	3) (-4, -3)	4) 50 cm^2	5) 110°
6.3:	2) C	3) D			
6.4:	1) 24	2) II, IV, VI	3) $12 + 12\sqrt{3}$	4) $\sqrt{85}$	
6.5:	1) S	2) A	3) S	4) A	5) S
	6) 48	7) Rhombus	8) $2xc + c^2$		