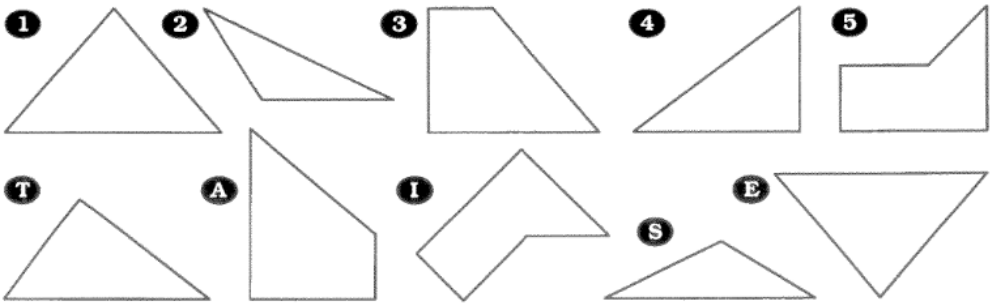
When Was the 300-lb Wrestler on Television?

homework

Each exercise will give you a number-letter pair. Write the letter in the matching numbered box at the bottom of the page.

Find pairs of congruent figures. Use the number from one figure and the letter from the other.

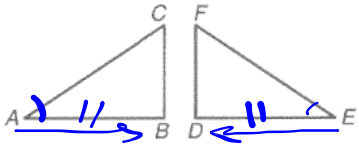


Complete each statement. Use the number of the exercise and the letter of the answer.

$\triangle ABC \cong \triangle EDF$

6 $\overline{AC} \cong$ 7 $\angle B \cong$

8 $\overline{AB} \cong$ 9 $\angle C \cong$



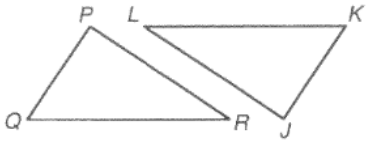
Answers 6-9

O $\overline{DE}$ T $\angle D$
E $\overline{EF}$ G $\angle E$
L $\overline{FD}$ E $\angle F$

$\triangle PQR \cong \triangle JKL$

10 $\overline{PR} \cong$ 11 $\angle R \cong$

12 $\overline{QR} \cong$ 13 $\angle P \cong$



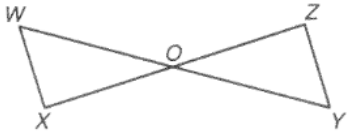
Answers 10-13

Y $\overline{JK}$ H $\angle J$
D $\overline{KL}$ F $\angle K$
T $\overline{LJ}$ E $\angle L$

$\triangle XOW \cong \triangle ZOY$

14 $\overline{WO} \cong$ 15 $\angle W \cong$

16 $\overline{WX} \cong$ 17 $\angle WOX \cong$



Answers 14-17

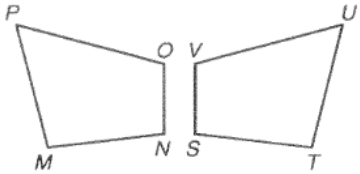
E $\overline{YZ}$ J $\angle Y$
X $\overline{ZO}$ S $\angle Z$
R $\overline{OY}$ B $\angle ZOY$

$MNOP \cong TSVU$

18 $\overline{OP} \cong$ 19 $\angle O \cong$

20 $\overline{MN} \cong$ 21 $\angle M \cong$

22 $\overline{PM} \cong$ 23 $\angle P \cong$

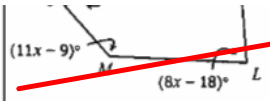


Answers 18-23

U $\overline{ST}$ O $\angle S$
F $\overline{TU}$ S $\angle T$
N $\overline{UV}$ V $\angle U$
T $\overline{VS}$ C $\angle V$

O	15	20	3	10	17	6	22	8	4	11	4	13	7	21	16	7	19	3	23	9	12	5	18	O

JUST BEFORE THE TEST CAVEDIN



$m\angle K =$ _____

$m\angle L =$ _____

$m\angle M =$ _____

warm up

PROPERTIES OF QUADRILATERALS

Place a checkmark on the properties that apply to each quadrilateral.

	Exactly One Pair of Opposite Sides Parallel	Both Pairs of Opposite Sides Parallel	Opposite Sides Congruent	Four Congruent Sides	Four Right Angles
Parallelogram		✓	✓		
Rhombus		✓	✓	✓	
Rectangle		✓	✓		✓
Square		✓	✓	✓	✓
Trapezoid	✓				

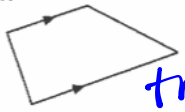
CLASSIFYING QUADRILATERALS

Classify each figure using the name that best describes it.

10.

Square

11.

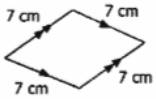


trapezoid

12.

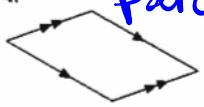
quad.

13.



Rhombus

14.

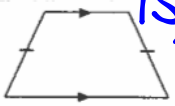


Parallelogram

15.

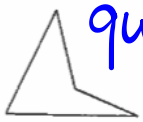
Rect.

16.



Isosceles Trapezoid

17.



quad.

Determine whether the statement is always, sometimes, or never true.

18. A trapezoid is a rectangle.

Never

19. A rhombus is a parallelogram.

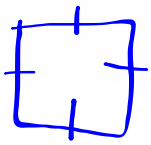
Always

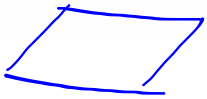
20. A square is a rhombus.

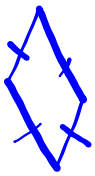
Always

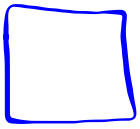
21. A parallelogram is a rectangle.

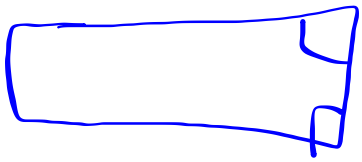
Sometimes





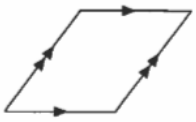






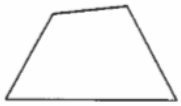
Directions: Classify each shape or the description of the shape using all names that apply.

14.



- ❑ Quadrilateral
- ❑ Trapezoid
- ❑ Isosceles Trapezoid
- ❑ Parallelogram
- ❑ Rectangle
- ❑ Rhombus
- ❑ Square

15.



- ❑ Quadrilateral
- ❑ Trapezoid
- ❑ Isosceles Trapezoid
- ❑ Parallelogram
- ❑ Rectangle
- ❑ Rhombus
- ❑ Square

16. A four-sided figure with four right angles.

- ❑ Quadrilateral
- ❑ Trapezoid
- ❑ Isosceles Trapezoid
- ❑ Parallelogram
- ❑ Rectangle
- ❑ Rhombus
- ❑ Square

17. A parallelogram with four congruent sides.

- ❑ Quadrilateral
- ❑ Trapezoid
- ❑ Isosceles Trapezoid
- ❑ Parallelogram
- ❑ Rectangle
- ❑ Rhombus
- ❑ Square

18. A four-sided figure with one pair of opposite sides parallel and two congruent legs.

- ❑ Quadrilateral
- ❑ Trapezoid
- ❑ Isosceles Trapezoid
- ❑ Parallelogram
- ❑ Rectangle
- ❑ Rhombus
- ❑ Square

19. A rectangle with four congruent sides.

- ❑ Quadrilateral
- ❑ Trapezoid
- ❑ Isosceles Trapezoid
- ❑ Parallelogram
- ❑ Rectangle
- ❑ Rhombus
- ❑ Square

Directions: Determine whether the statement is **always**, **sometimes**, or **never** true.

20. A trapezoid is a rhombus.

21. A quadrilateral is a parallelogram.

22. A square is a rectangle.

23. A rectangle is a quadrilateral.

24. A parallelogram is a square.

25. A quadrilateral is a rhombus.

Directions: Draw each shape, if possible.

26. A parallelogram that is not a rhombus.

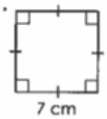
27. A square that is not a rectangle.

28. A rectangle that is not a quadrilateral.

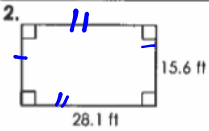
Name:	Date:
Topic:	Class:

Main Ideas/Questions	Notes/Examples
PERIMETER	Sum of the sides of a polygon.

Find the perimeter of each shape:

1. 

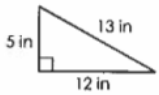
P=28cm

2. 

87.4ft

3. 

88.5m

4. 

30in

AREA

Find the area of each shape:

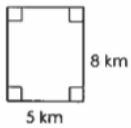
Area of Square

Area of a Rectangle

A=bh

5. 

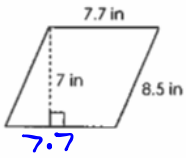
A = 4(4)
16m²

6. 

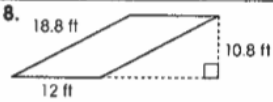
5(8)
40km²

Area of a Parallelogram

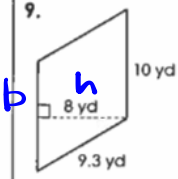
A= bh

7. 

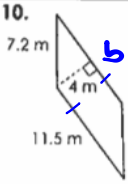
7.7(7)
53.9in²

8. 

12(10.8)
129.6ft²

9. 

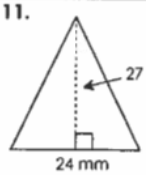
10(8)
80yd²

10. 

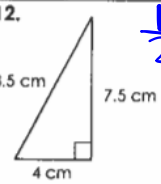
11.5(4)
46m²

Area of a Triangle

A=½bh

11. 

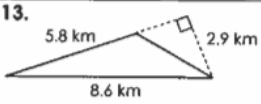
½(24)(27)
324mm²

12. 

½(4)(7.5)
15 cm²

Area of a Trapezoid $\frac{1}{2}(b_1+b_2)h$

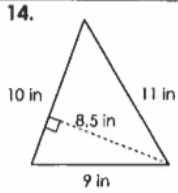
13.



$\frac{1}{2}(5.8)(2.9)$

$8.41\ km^2$

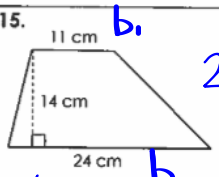
14.



$\frac{1}{2}(10)(8.5)$

$42.5\ in^2$

15.



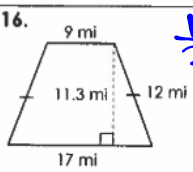
b_1

b_2

$245\ cm^2$

$\frac{1}{2}(11+24)(14)$

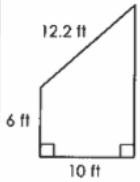
16.



$\frac{1}{2}(26)(11.3)$

$146.9\ mi^2$

17.

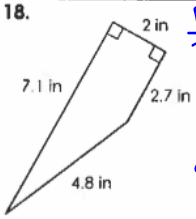


$\frac{1}{2}(6+13)(10)$

$\frac{1}{2}(19)(10)$

$95\ ft^2$

18.



$\frac{1}{2}(7.1+2.7)(2)$

$\frac{1}{2}(9.8)(2)$

$9.8\ in^2$

GOING BACKWARDS

19. Find the base of a parallelogram with a height of 10.5 feet and an area of 189 ft².

20. A triangle has an area of 220 square meters. Find its height if its base measures 20 meters.

21. A trapezoid has an area of 27.5 cm². What is the measure of the height if the bases measure 7 cm and 4 cm?

22. Find the length of the second base of a trapezoid with one base measuring 8 inches, a height of 13 inches, and an area of 149.5 square inches.

Name_____Date_____Bell_____Page_____

Quads – CSI

Quadrilateral Classification Scene Investigator

A series of crimes (other than bad puns) has taken place in the math classroom. Use your Crime Solvers Handbook (IAN) to help rule out the suspects. When you discover a clue, circle all suspects that the characteristic applies to.

Crime # 1: Someone has stolen all of the square roots out of the math teacher's garden. Help solve the crime.

- First Clue – the perpetrator was a polygon with 4 sides: circle all suspects that the characteristic applies to.

Triangle	Rhombus	Rectangle	Parallelogram
Square	Kite	Pentagon	Trapezoid
Circle	Quadrilateral	Octagon	Isosceles Trapezoid

- Second Clue – the perpetrator had opposite sides parallel: circle all suspects that the characteristic applies to.

Triangle	Rhombus	Rectangle	Parallelogram
Square	Kite	Pentagon	Trapezoid
Circle	Quadrilateral	Octagon	Isosceles Trapezoid

- Third Clue – the perpetrator did not have right angles: circle all suspects that the characteristic applies to.

Triangle	Rhombus	Rectangle	Parallelogram
Square	Kite	Pentagon	Trapezoid
Circle	Quadrilateral	Octagon	Isosceles Trapezoid

- Last Clue – the perpetrator was a polygon with 4 congruent sides: circle all suspects.

Triangle	Rhombus	Rectangle	Parallelogram
Square	Kite	Pentagon	Trapezoid
Circle	Quadrilateral	Octagon	Isosceles Trapezoid

Who has been circled for every clue? Who is the Perpetrator? _____

Crime # 2: It appears as though an irrational person has taken all of the pi from the refrigerator. Help solve the crime.

- First Clue – the culprit was a quadrilaeral with opposite sides parallel: circle suspects that the clue applies to.

Triangle	Rhombus	Rectangle	Parallelogram
Square	Kite	Pentagon	Trapezoid
Circle	Quadrilateral	Octagon	Isosceles Trapezoid

- Second Clue – the culprit had right angles: circle all suspects that the characteristic applies to.

Triangle	Rhombus	Rectangle	Parallelogram
Square	Kite	Pentagon	Trapezoid
Circle	Quadrilateral	Octagon	Isosceles Trapezoid

- Last Clue – the criminal had only opposite sides being congruent – not all: circle all suspects that the characteristic applies to.

Triangle	Rhombus	Rectangle	Parallelogram
Square	Kite	Pentagon	Trapezoid
Circle	Quadrilateral	Octagon	Isosceles Trapezoid

Who has been circled for every clue? Who is the Culprit? _____

Crime # 3: It is believed that someone robbed 50 meters of number line. Help your teacher solve the crime.

- First Clue – the perpetrator was a polygon with 4 sides: circle all suspects that the characteristic applies to.

Triangle	Rhombus	Rectangle	Parallelogram
Square	Kite	Pentagon	Trapezoid
Circle	Quadrilateral	Octagon	Isosceles Trapezoid

- Second Clue – all of the parallelograms were playing a game of 4 square so cross all of them out.

Triangle	Rhombus	Rectangle	Parallelogram
Square	Kite	Pentagon	Trapezoid
Circle	Quadrilateral	Octagon	Isosceles Trapezoid

- Last Clue – the doer had one pair of sides being congruent and the other sides are parallel: circle all suspects that the characteristic applies to.

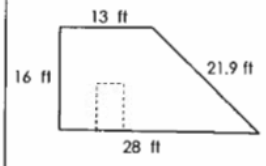
Triangle	Rhombus	Rectangle	Parallelogram
Square	Kite	Pentagon	Trapezoid
Circle	Quadrilateral	Octagon	Isosceles Trapezoid

Who has been circled for every clue? Who is the Guilty party? _____

PERIMETER & AREA Applications

Directions: Read each problem carefully and solve! Draw pictures when necessary.

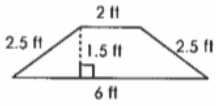
1. A 7-foot by 3-foot doorway is to be cut into a trapezoid-shaped wall as shown below. Find the area of the wall with the door cut out.



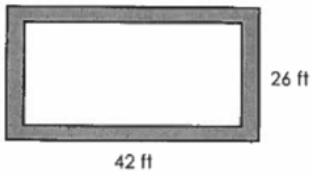
2. Mr. Brinkley has a triangular-shaped area for his horses with sides measuring 30 meters, 64 meters, and 87 meters. He would like to enclose this area with a fence. If the fencing comes in 2.5-meter sections, how many sections of fence will be need?

3. An Olympic-sized pool measures 50 meters by 25 meters. If a coach asked his swimmers to swim around the pool three times, how far will they swim?

4. Mrs. Humphrey needs to replace a broken window on her house. The window is shaped like a trapezoid with dimensions shown below. If glass costs $21.50 per square foot, how much will the replacement window cost?



Use for questions 5-6: Plans for a rectangle-shaped garden will include a 2-foot wide cement walkway surrounding it, as shown in the picture below.

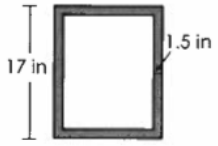


5. If concrete costs $4.50 per square foot, how much will it cost to fill the walkway?

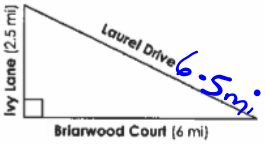
6. For the holiday season, lights will be strung along each side of the walkway. If one box of lights will cover 10 feet of walkway, how many boxes are needed?

7 Mr. Marsh plans to tile the floor in his 6-foot by 8-foot front hall. If each tile is an 8-inch square, what is the minimum number of tiles needed to cover the floor?

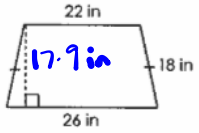
8 The total area of a picture frame, including the glass and 1.5-inch wide wooden frame, is 238 square inches. If the frame is 17 inches tall, what are dimensions of the maximum picture size that will fit in the frame?



9 The intersections of three streets form a triangle as shown below. If Kelly decides to make this triangle her running route today, how far will she run?

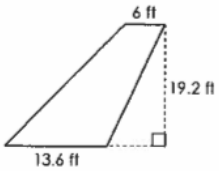


10 Mrs. Watson has 30 desks in her math class, each shaped like the trapezoid shown below. She plans to cover each one with bulletin board paper for a project. What is the minimum amount of paper she will need?



11 One of the display boards at the Dallas Cowboys' stadium has a screen size of 11,393 square feet. If the width of the board is160 feet, find its height.

12 The vertical tail on an airplane is shaped like a trapezoid, with dimensions shown below. If each side of the tail is to be painted, and one can of paint covers 150 square feet, how many cans of paint are needed?



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