

9.2 Area of Trapezoids, Kites, and Rhombi

NOTES

TRAPEZOIDS:

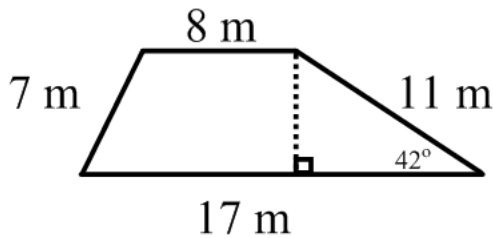
$$A =$$

Write your questions here!



TRY IT!

Find the area of the trapezoid:

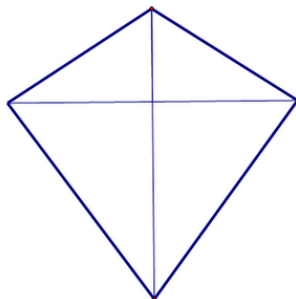


Find the height of the trapezoid:

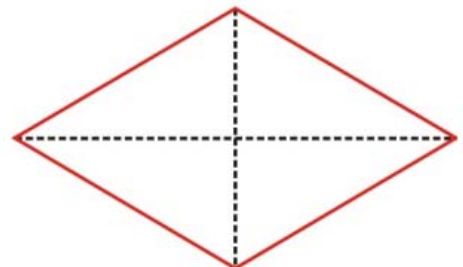
KITES AND RHOMBUSES:

$$A =$$

Kite



Rhombus



Write your questions here!

AREA FORMULAS:

Parallelogram =

Trapezoid =

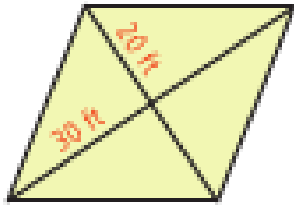
Triangle =

Kite and Rhombus =

TRY IT! Find the area of the following:

NORMAL

Rhombus



TRIG

sine, cosine, tangent

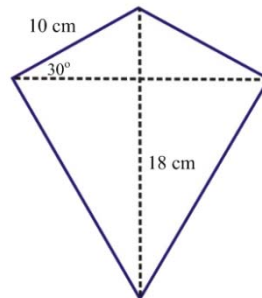
Kite

PYTHAGOREAN THEOREM

Rhombus

SPECIAL RIGHT TRIANGLES

Kite



Summarize your notes!

9.2 PRACTICE

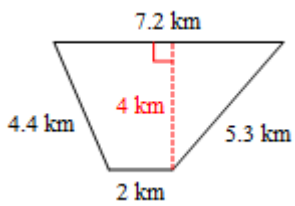
Draw the following. Find the area. Label your answer!

1. $\triangle YEAH$ with a base of 12 ft, a base of 8 ft and altitude of 9 ft.

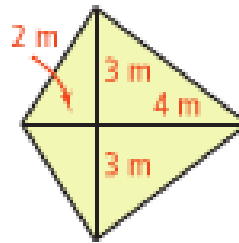
2. Kite $MATH$ with a diagonal of 7.2 cm and a diagonal of 10.4 cm.

Find the area of each. Label your answer!

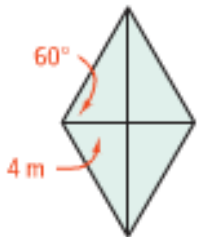
3. TRAPEZOID



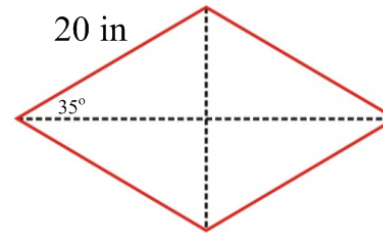
4. KITE



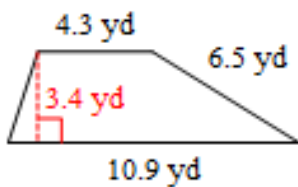
5. RHOMBUS



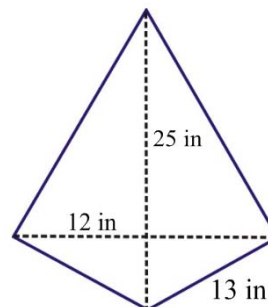
6. RHOMBUS



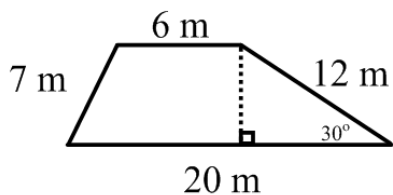
7. TRAPEZOID



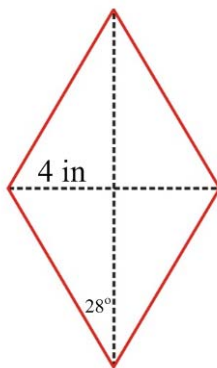
8. KITE



9. TRAPEZOID

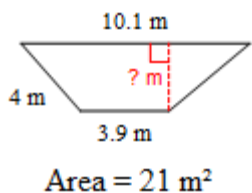


10. RHOMBUS

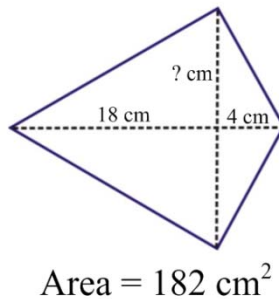


Find the missing measurement. Round to the nearest tenth.

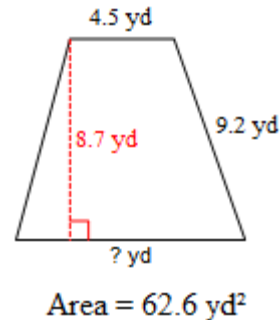
11. TRAPEZOID



12. KITE



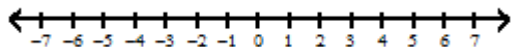
13. TRAPEZOID



ALGEBRA REVIEW

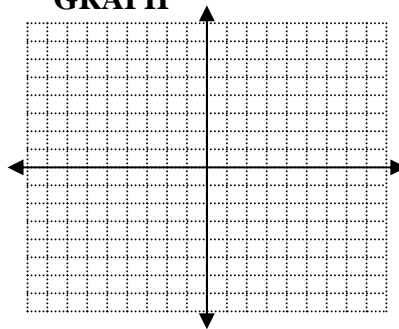
SOLVE

$$5(3 - 2x) \leq -35$$



GRAPH

$$3y = 6 - 3x$$

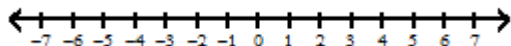


MULTIPLY

$$(2x - 5)(3x - 3)$$

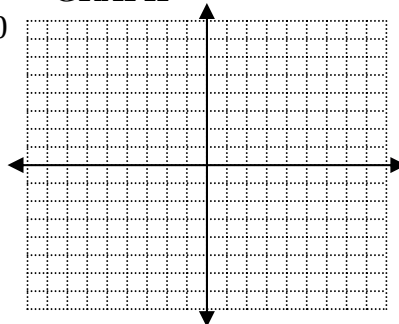
SOLVE

$$4x + 5 > -19 + 8x$$



GRAPH

$$4x - 2y < 10$$

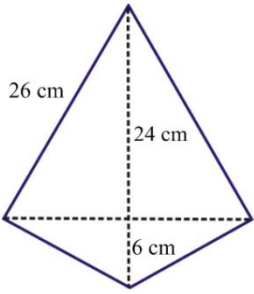


FACTOR

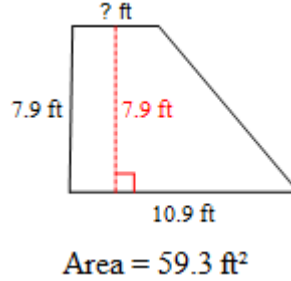
$$2x^2 - 7x + 3$$

9.2 APPLICATION

1. Find the area of the kite. Label your answer!



2. Find the missing measurement of the trapezoid.



Watch the application walk through video if you need extra help getting started!

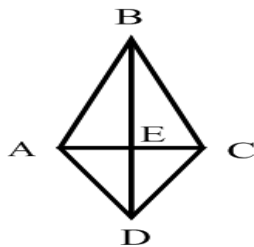
1. Draw rhombus *YEPS* with a perimeter of 20 in and a diagonal of 6 in. Find the area!

2. **SAT PREP** Below are sample SAT questions. The SAT is the main standardized test that colleges look at for admission. One is multiple choices; the other is free response where you must grid in your answer. Blow it up.

MULTIPLE CHOICE

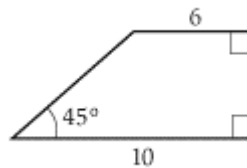
In the figure below $AB = 9\sqrt{2}$ meters, $ED = 6$ meters and $\angle BAE = 45^\circ$. What is the area of the kite?

- A) $90 m^2$
- B) $108 m^2$
- C) $135 m^2$
- D) $216 m^2$
- E) Not enough information



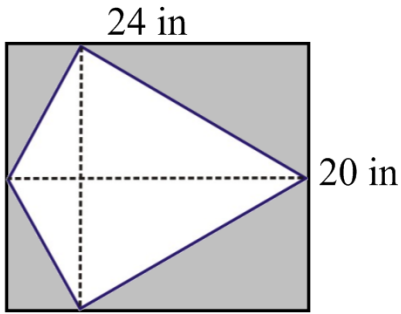
GRID IN

Find the area of the right trapezoid.



<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
①	①	①	①
②	②	②	②
③	③	③	③
④	④	④	④
⑤	⑤	⑤	⑤
⑥	⑥	⑥	⑥
⑦	⑦	⑦	⑦
⑧	⑧	⑧	⑧
⑨	⑨	⑨	⑨

3. **SHADED REGION** Find the area of the shaded region.

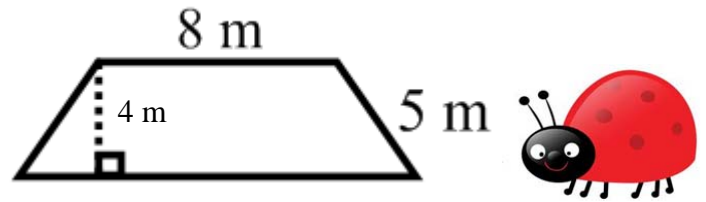


4. **PERIMETER** Don't forget about perimeter. Perimeter is the length of all sides added together. Think about walking around the edge of the figure, how far would you walk. (It helps to pretend you are a little ladybug so you can visualize walking around the figure, plus ladybugs are adorable.)

Use the isosceles trapezoid to find...

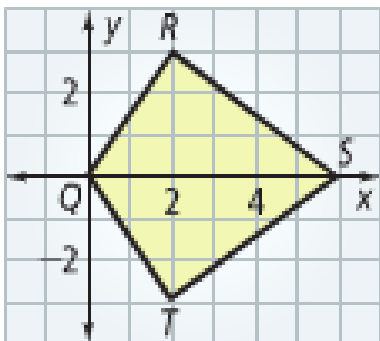
Perimeter =

Area =



5. **COORDINATE GEOMETRY** Find the area of quadrilateral $QRST$.

Given the picture.



Given the coordinate points.

$$Q = (3,0)$$

$$R = (5, 5)$$

$$S = (0, 3)$$

$$T = \text{origin}$$

