



$$x^2+y^2+2ax+2ey+j=0$$
$$(x,y) = F(x,y)$$
$$a = \pi r^2$$

Pick your table group!



Everything you wanted to know about Quadrilaterals but were afraid to ask...


What we (think) we know...



Questions to answer...


What we learned...


Special Quadrilaterals - Match the shape with the name

Rhombus _____  

Kite _____ 

Isosceles Trapezoid _____  




Square _____ 


Trapezoid _____ 


Parallelogram _____


Rectangle _____


Special Quadrilaterals - Match the shape with the name

Rhombus  _____  

Kite _____ 

Isosceles Trapezoid _____ 


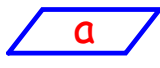
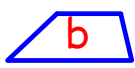




Square _____ 

Trapezoid _____ 


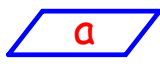
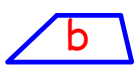




Parallelogram _____

Rectangle _____

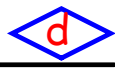
Special Quadrilaterals - Match the shape with the name

Rhombus			
Kite			
Isosceles Trapezoid	_____		
Square	_____		
Trapezoid	_____		
Parallelogram	_____		
Rectangle	_____		

Special Quadrilaterals - Match the shape with the name

Rhombus			
Kite			
Isosceles Trapezoid			
Square	_____		
Trapezoid	_____		
Parallelogram	_____		
Rectangle	_____		

Special Quadrilaterals - Match the shape with the name

Rhombus 



Kite 



Isosceles Trapezoid 

Square 

Trapezoid _____

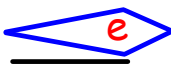
Parallelogram _____

Rectangle _____

Special Quadrilaterals - Match the shape with the name

Rhombus 



Kite 



Isosceles Trapezoid 

Square 

Trapezoid 

Parallelogram _____

Rectangle _____

Special Quadrilaterals - Match the shape with the name

Rhombus 

Kite 

Isosceles Trapezoid 




Square 

Trapezoid 

Parallelogram 

Rectangle _____

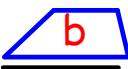
Special Quadrilaterals - Match the shape with the name

Rhombus 

Kite 

Isosceles Trapezoid 


Square 

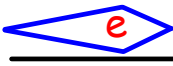
Trapezoid 

Parallelogram 


Rectangle 

Special Quadrilaterals - Now define each shape...

Rhombus 

Kite 

Isosceles Trapezoid 


Square 

Trapezoid 

Parallelogram 


Rectangle 

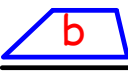
Special Quadrilaterals - Now define each shape...

Rhombus  Parallelogram with 4 \cong sides

Kite 

Isosceles Trapezoid 


Square 

Trapezoid 

Parallelogram 


Rectangle 


Special Quadrilaterals - Now define each shape...

Rhombus  Parallelogram with 4 \cong sides

Kite  Quadrilateral 2 pair adjacent sides \cong
but no opposite sides \cong

Isosceles Trapezoid 


Square 

Trapezoid 

Parallelogram 

Rectangle 

Special Quadrilaterals - Now define each shape...

Rhombus  Parallelogram with 4 \cong sides

Kite  Quadrilateral 2 pair adjacent sides \cong
but no opposite sides \cong

Isosceles Trapezoid  Trapezoid whose non-parallel sides are \cong


Square 

Trapezoid 

Parallelogram 

Rectangle 


Special Quadrilaterals - Now define each shape...

Rhombus  Parallelogram with 4 \cong sides

Kite  Quadrilateral 2 pair adjacent sides \cong
but no opposite sides \cong

Isosceles Trapezoid  Trapezoid whose non-parallel sides are \cong

Square  Parallelogram with 4 \cong sides & 4 right \angle 's

Trapezoid 

Parallelogram 

Rectangle 

Special Quadrilaterals - Now define each shape...

Rhombus  Parallelogram with 4 \cong sides

Kite  Quadrilateral 2 pair adjacent sides \cong
but no opposite sides \cong

Isosceles Trapezoid  Trapezoid whose non-parallel sides are \cong



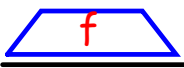

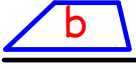


Square  Parallelogram with 4 \cong sides & 4 right \angle 's

Trapezoid  Quadrilateral with only 1 pair parallel sides





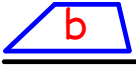


Parallelogram 

Rectangle 

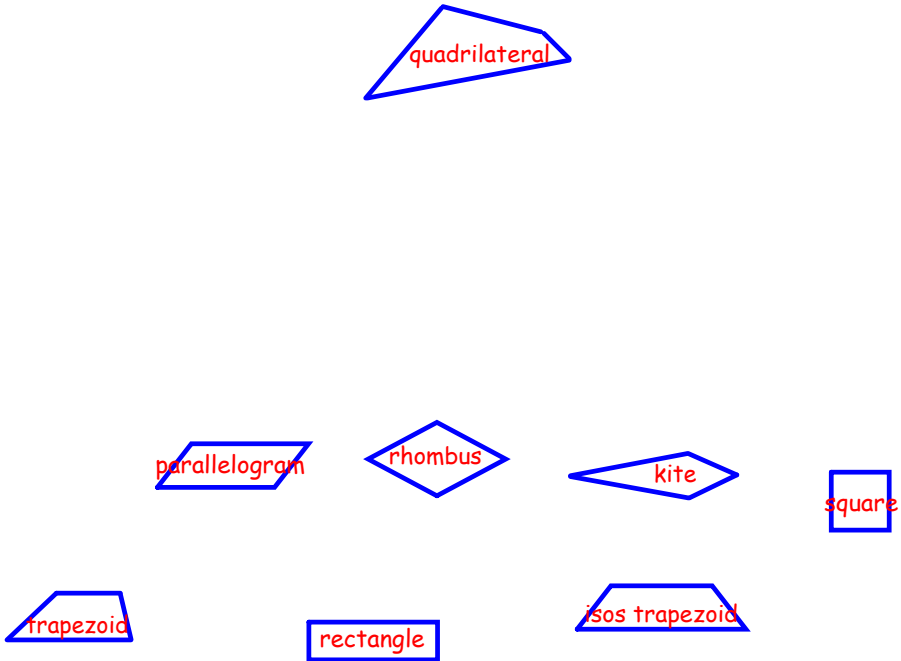
Special Quadrilaterals - Now define each shape...

Rhombus		Parallelogram with 4 \cong sides
Kite		Quadrilateral 2 pair adjacent sides \cong but no opposite sides \cong
Isosceles Trapezoid		Trapezoid whose non-parallel sides are \cong
Square		Parallelogram with 4 \cong sides & 4 right \angle 's
Trapezoid		Quadrilateral with only 1 pair parallel sides
Parallelogram		Quadrilateral w/both pair opposite sides parallel
Rectangle		

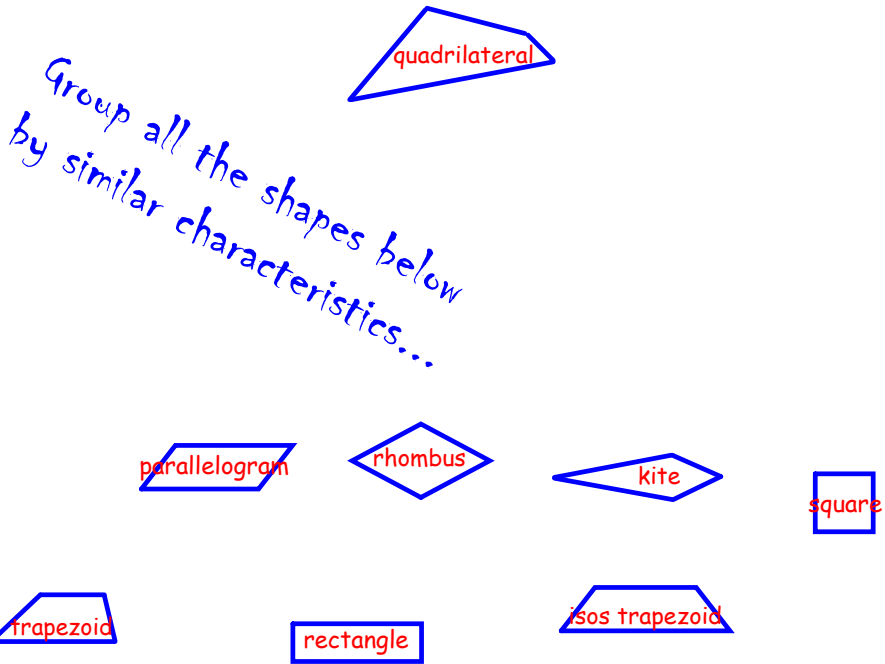
Special Quadrilaterals - Now define each shape...

Rhombus		Parallelogram with 4 \cong sides
Kite		Quadrilateral 2 pair adjacent sides \cong but no opposite sides \cong
Isosceles Trapezoid		Trapezoid whose non-parallel sides are \cong
Square		Parallelogram with 4 \cong sides & 4 right \angle 's
Trapezoid		Quadrilateral with only 1 pair parallel sides
Parallelogram		Quadrilateral w/both pair opposite sides parallel
Rectangle		Parallelogram with 4 right \angle 's

Special Quadrilaterals - Family Tree (identify related shapes)



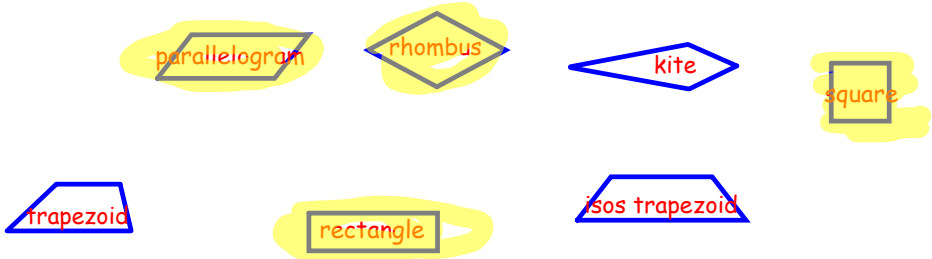
Special Quadrilaterals - Family Tree (identify related shapes)



Special Quadrilaterals - Family Tree (identify related shapes)

quadrilateral

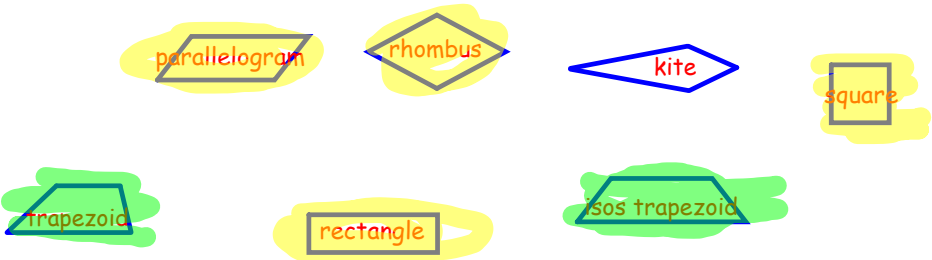
Group all the shapes below by similar characteristics...



Special Quadrilaterals - Family Tree (identify related shapes)

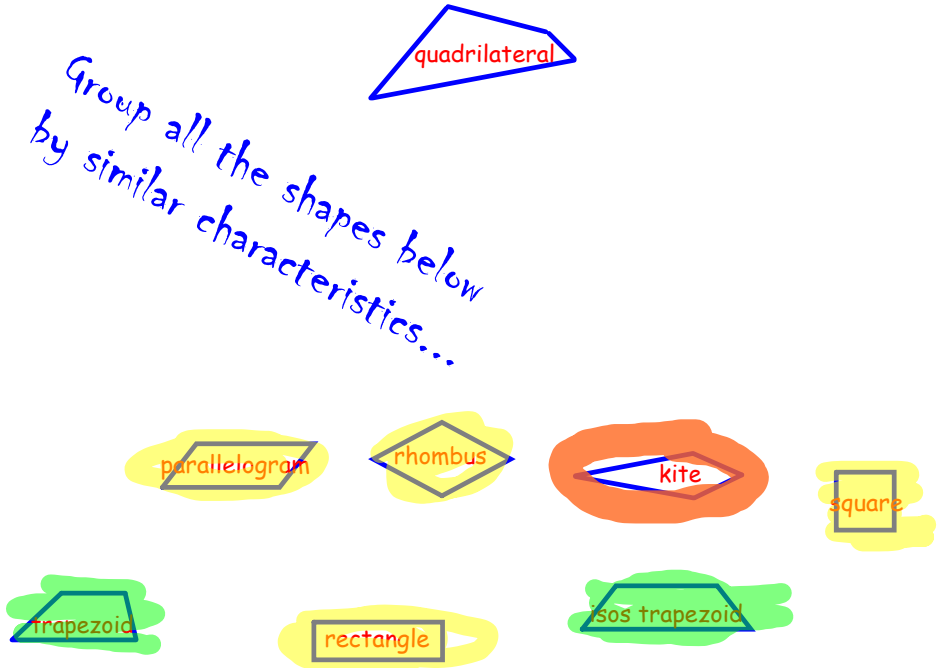
quadrilateral

Group all the shapes below by similar characteristics...

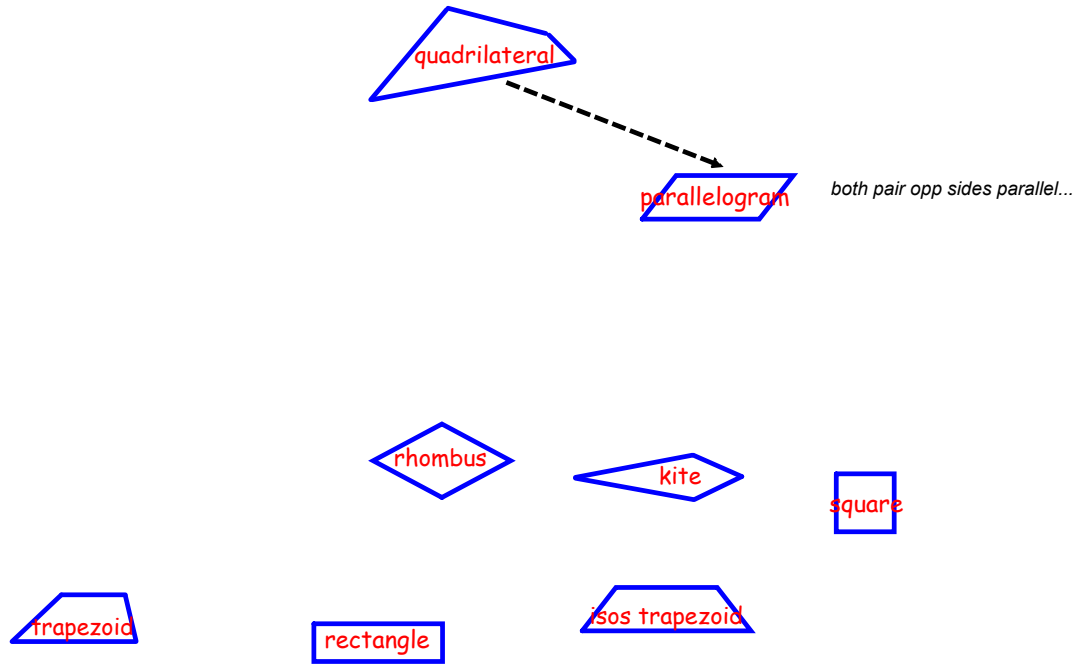


Special Quadrilaterals - Family Tree (identify related shapes)

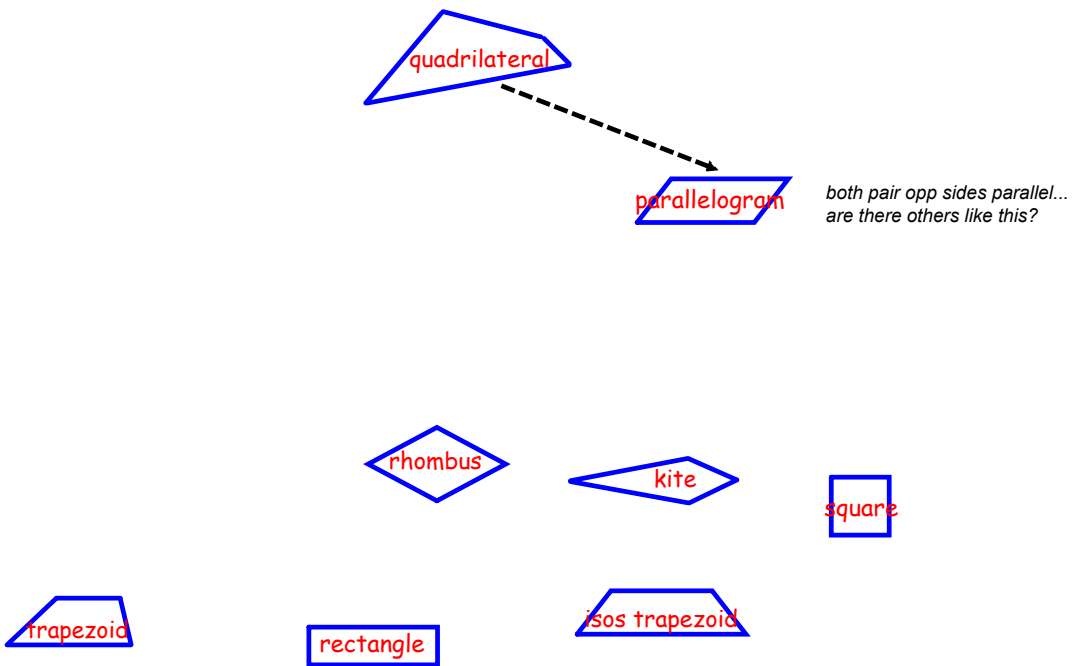
Group all the shapes below by similar characteristics...



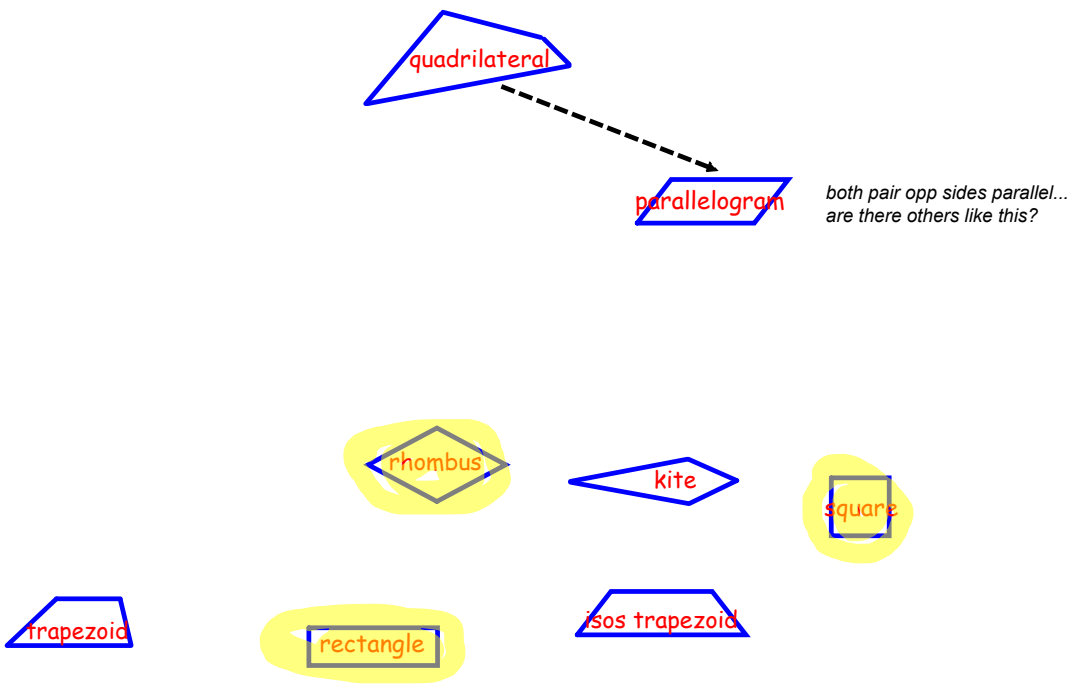
Special Quadrilaterals - Family Tree (identify related shapes)



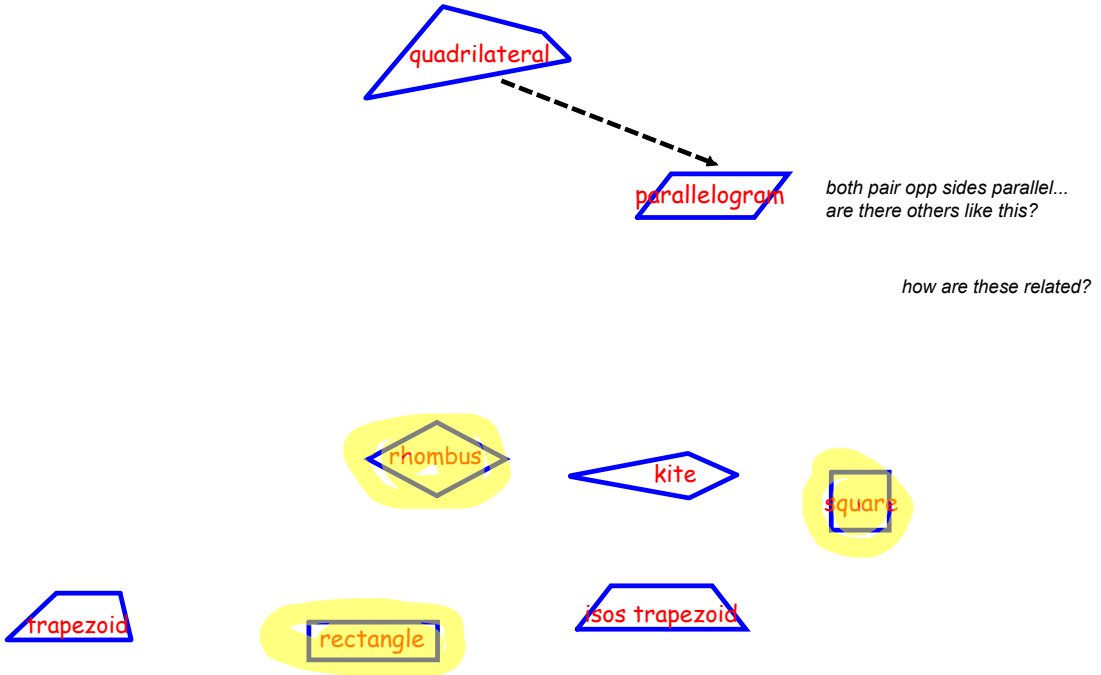
Special Quadrilaterals - Family Tree (identify related shapes)



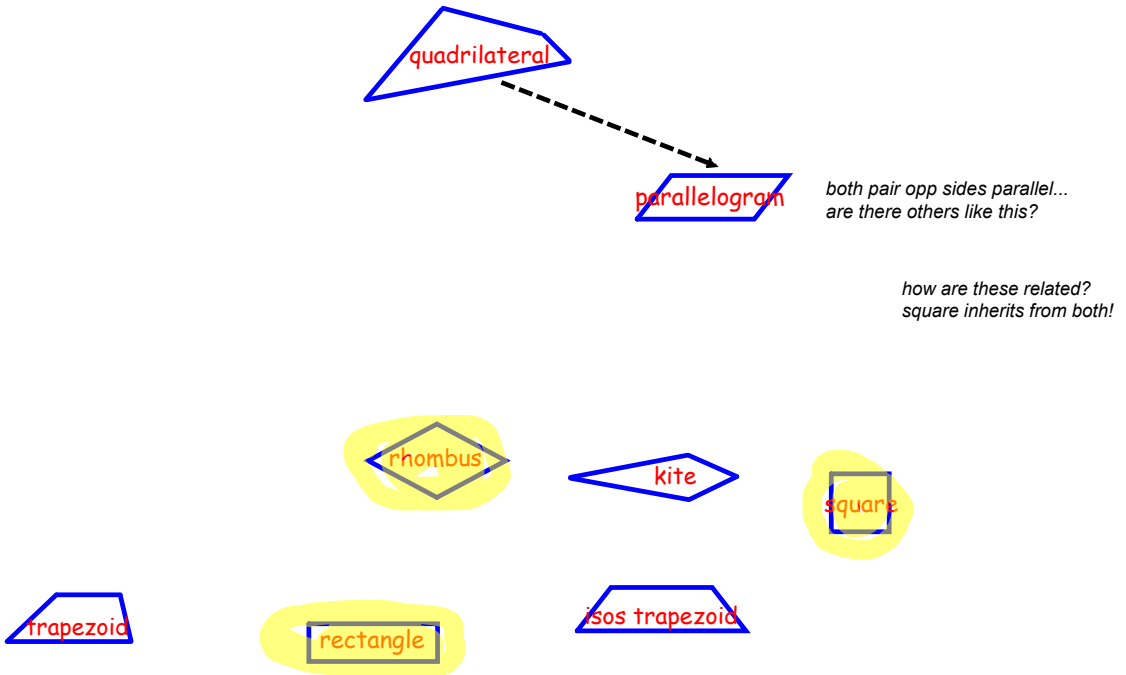
Special Quadrilaterals - Family Tree (identify related shapes)



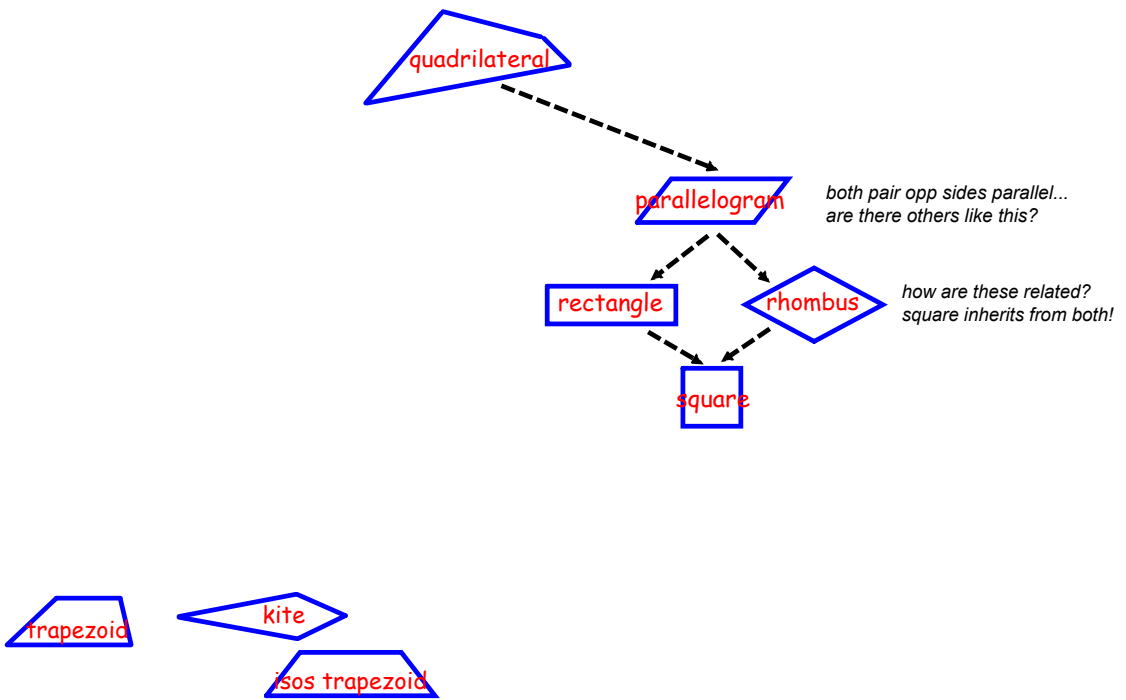
Special Quadrilaterals - Family Tree (identify related shapes)



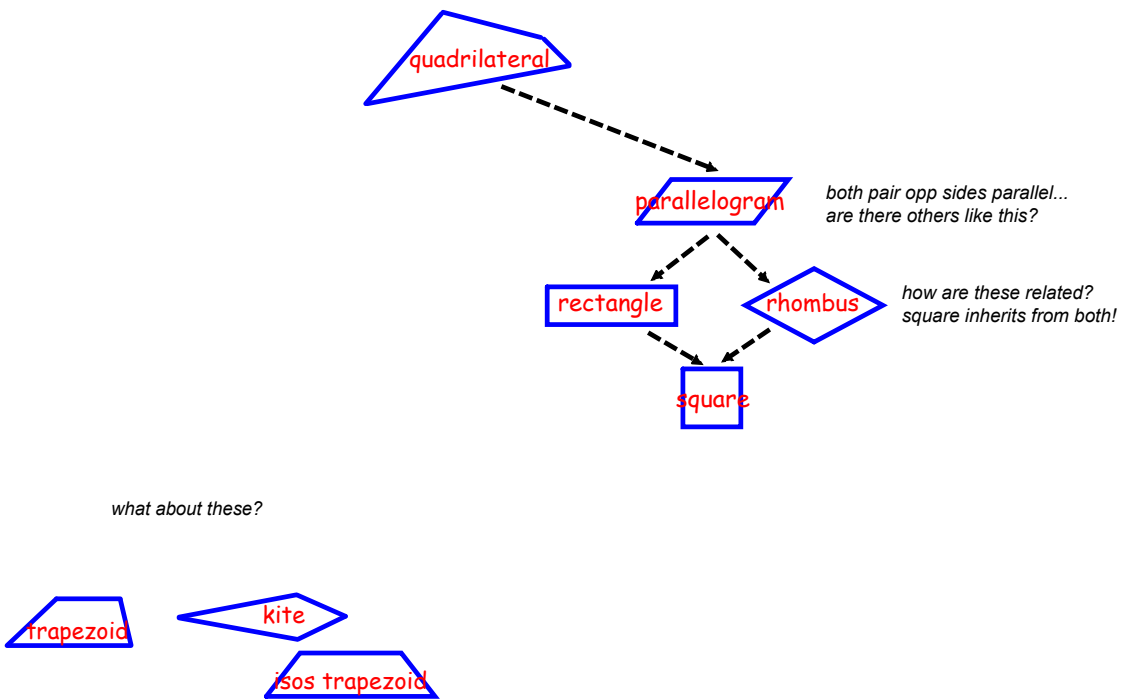
Special Quadrilaterals - Family Tree (identify related shapes)



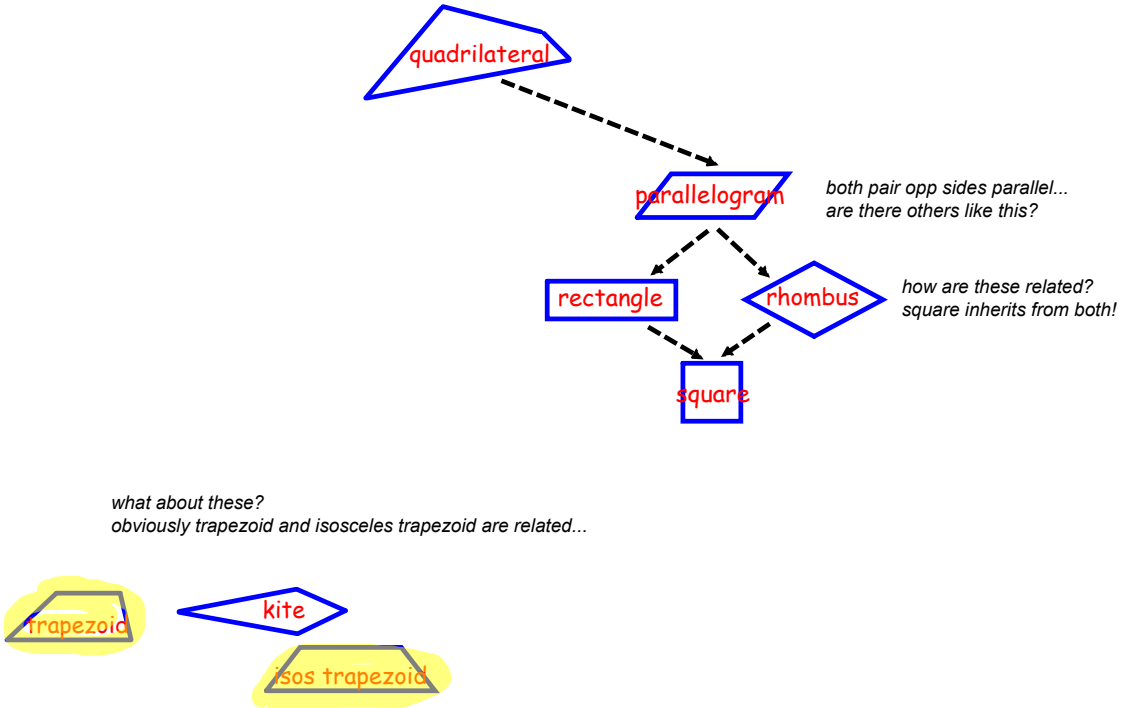
Special Quadrilaterals - Family Tree (identify related shapes)



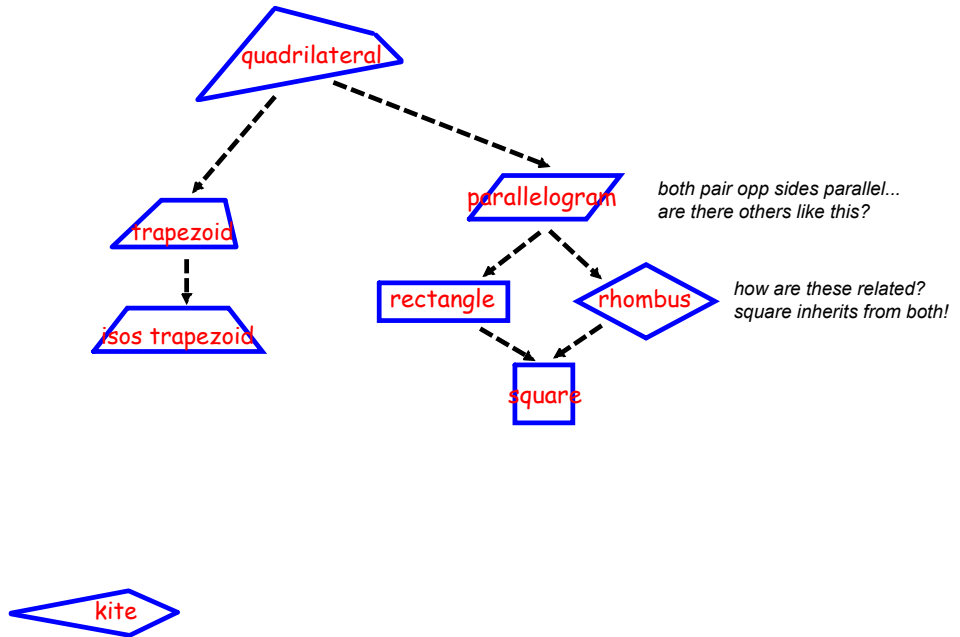
Special Quadrilaterals - Family Tree (identify related shapes)



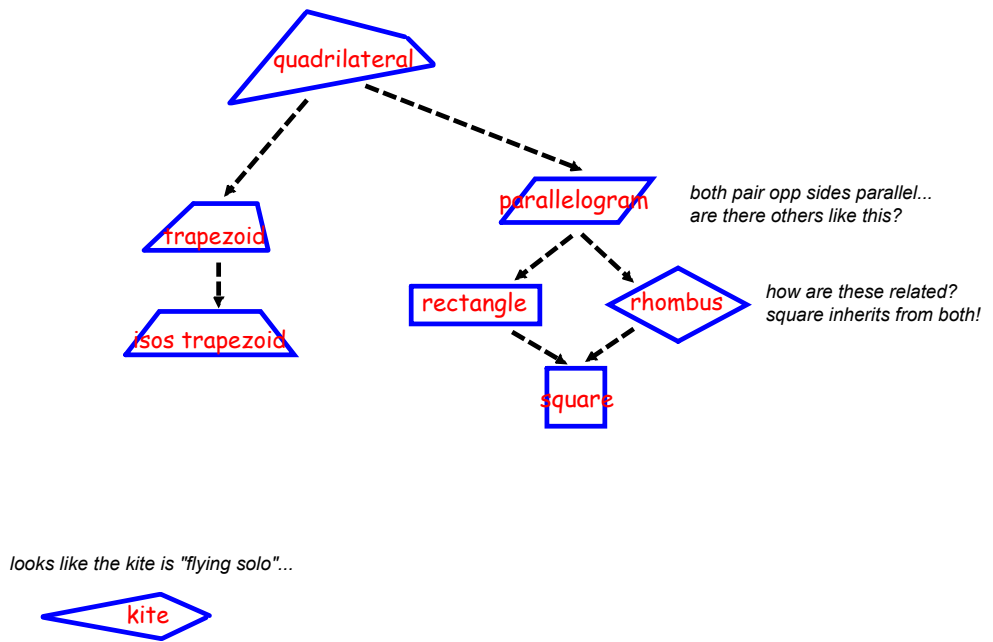
Special Quadrilaterals - Family Tree (identify related shapes)



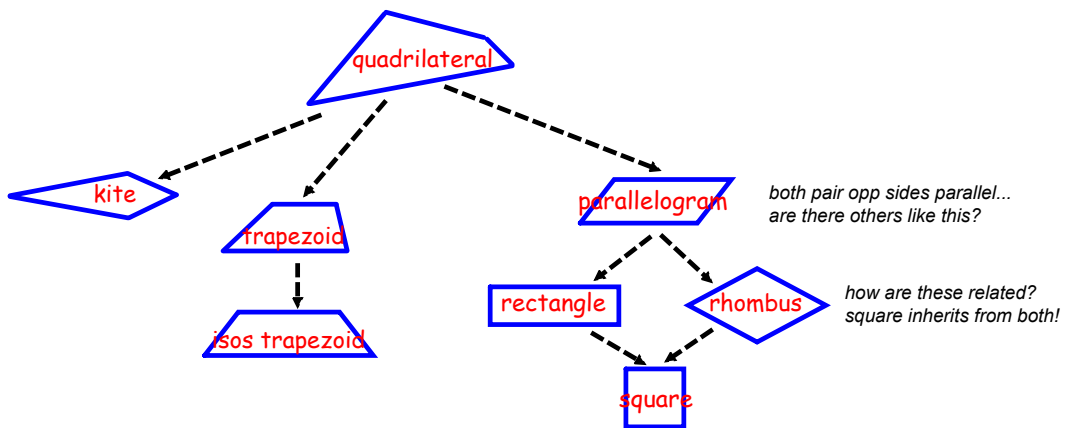
Special Quadrilaterals - Family Tree (identify related shapes)



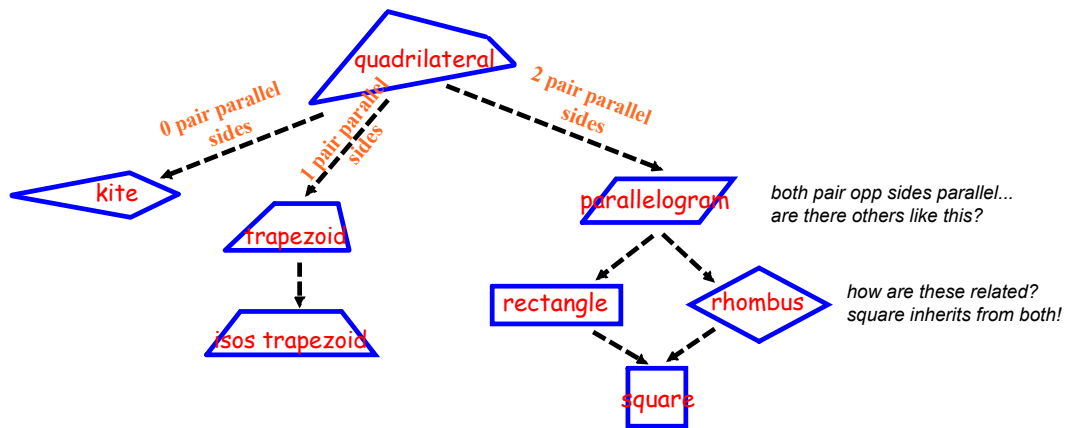
Special Quadrilaterals - Family Tree (identify related shapes)



Special Quadrilaterals - Family Tree (identify related shapes)



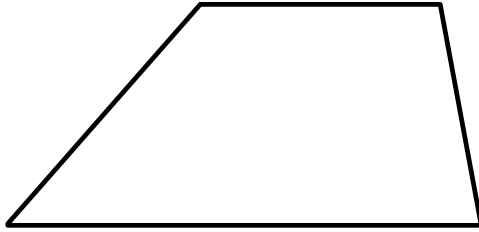
Special Quadrilaterals - Family Tree (identify related shapes)



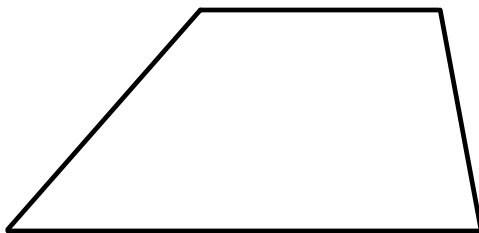
Everything you wanted to know about Quadrilaterals but were afraid to ask...

Now go back to your first page and fill in the "What we learned..." column summarizing (you guessed it) what we've learned.

Judging by appearance, classify this quadrilateral in as many ways as possible

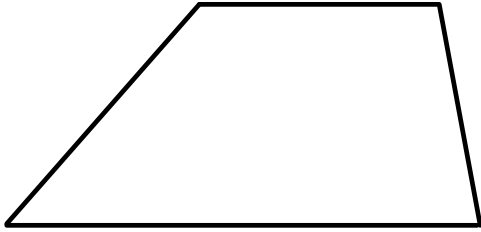


Judging by appearance, classify this quadrilateral in as many ways as possible

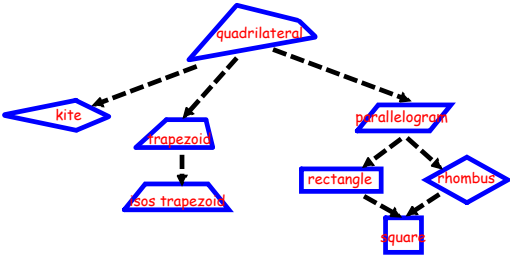


The trick here is to start at the top of the quadrilateral family tree and go as far down as you can, naming every shape you hit.

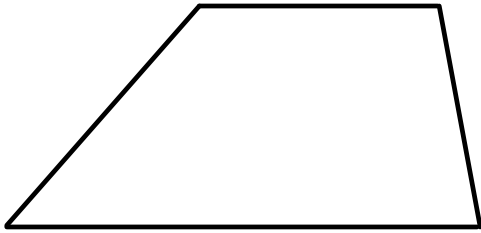
Judging by appearance, classify this quadrilateral in as many ways as possible



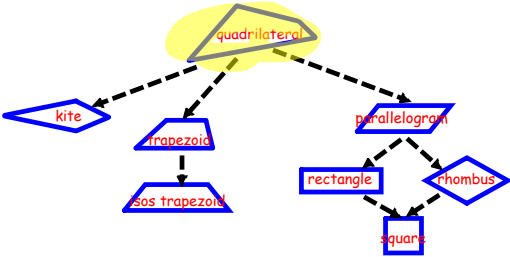
The trick here is to start at the top of the quadrilateral family tree and go as far down as you can, naming every shape you hit.



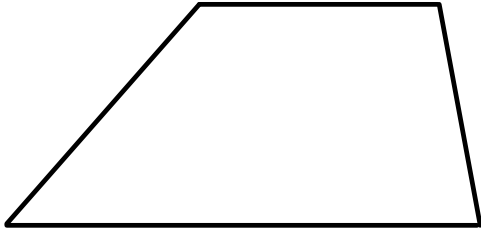
Judging by appearance, classify this quadrilateral in as many ways as possible



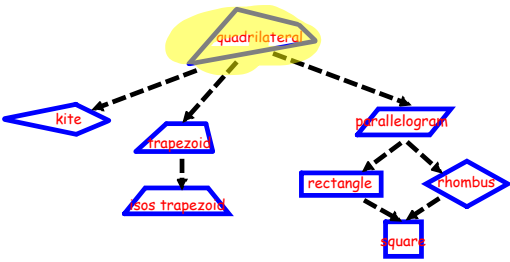
The trick here is to start at the top of the quadrilateral family tree and go as far down as you can, naming every shape you hit.



Judging by appearance, classify this quadrilateral in as many ways as possible

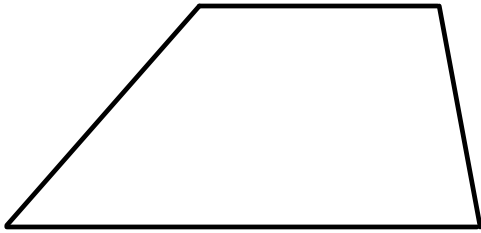


The trick here is to start at the top of the quadrilateral family tree and go as far down as you can, naming every shape you hit.

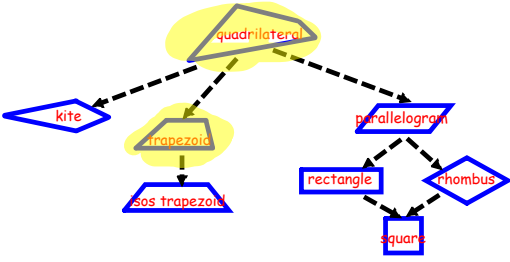


Quadrilateral

Judging by appearance, classify this quadrilateral in as many ways as possible

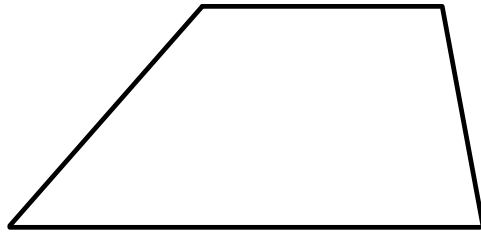


The trick here is to start at the top of the quadrilateral family tree and go as far down as you can, naming every shape you hit.

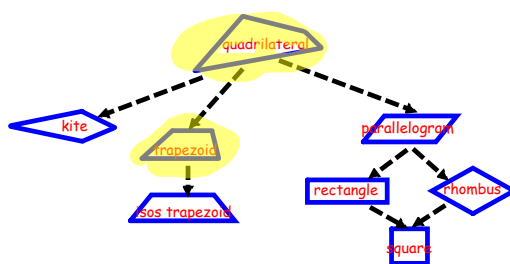


Quadrilateral

Judging by appearance, classify this quadrilateral in as many ways as possible



The trick here is to start at the top of the quadrilateral family tree and go as far down as you can, naming every shape you hit.



Quadrilateral

Trapezoid

Determine the most precise name for this quadrilateral with vertices...

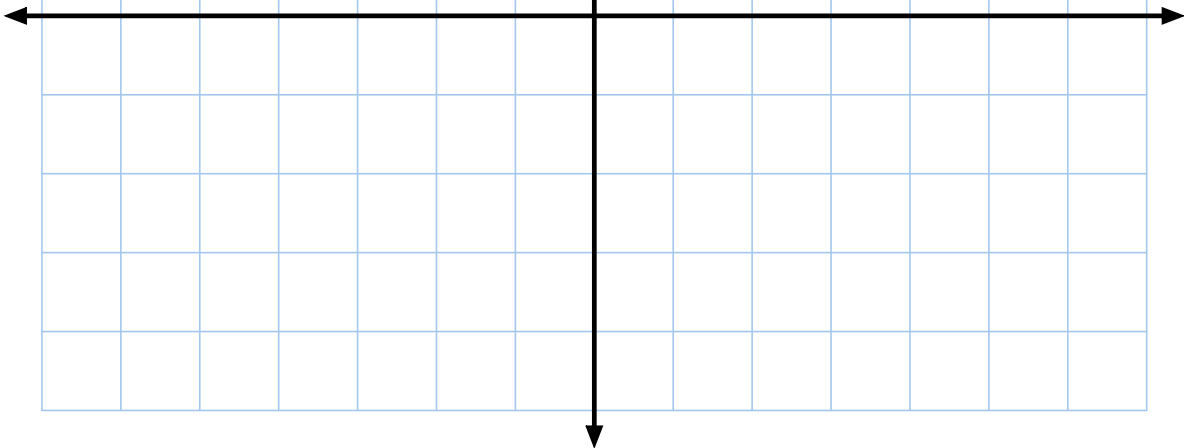
$Q(-4, 4), B(-2, 9), H(8, 9), A(10, 4)$

... graph it ...

Determine the most precise name for this quadrilateral with vertices...

$Q(-4, 4)$, $B(-2, 9)$, $H(8, 9)$, $A(10, 4)$

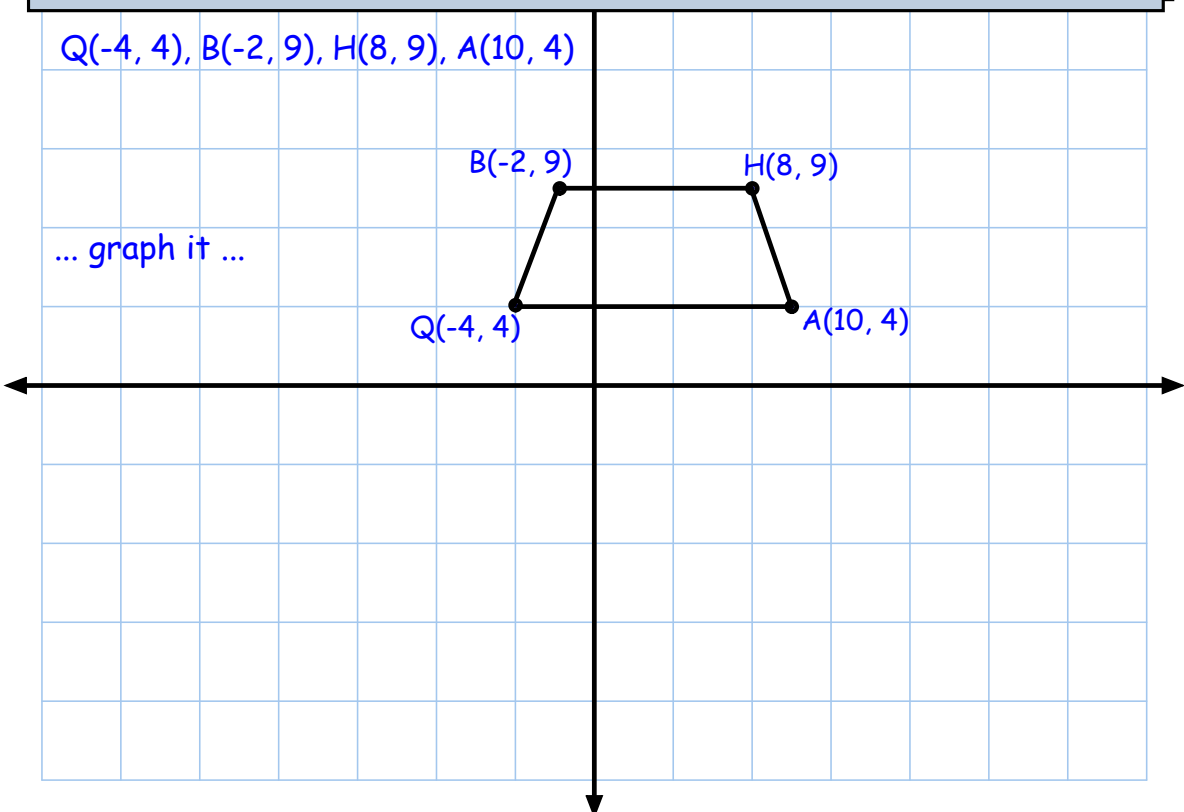
... graph it ...



Determine the most precise name for this quadrilateral with vertices...

$Q(-4, 4)$, $B(-2, 9)$, $H(8, 9)$, $A(10, 4)$

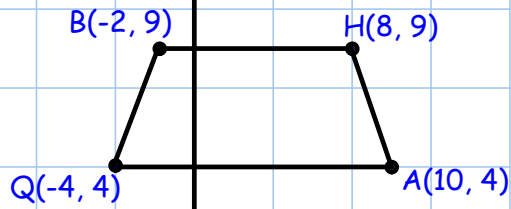
... graph it ...



Determine the most precise name for this quadrilateral with vertices...

$Q(-4, 4)$, $B(-2, 9)$, $H(8, 9)$, $A(10, 4)$

... graph it ...

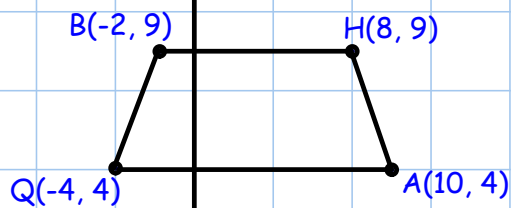


it looks like a trapezoid

Determine the most precise name for this quadrilateral with vertices...

$Q(-4, 4)$, $B(-2, 9)$, $H(8, 9)$, $A(10, 4)$

... graph it ...

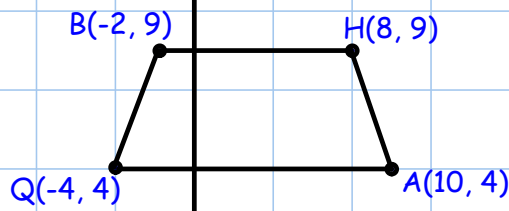


it looks like a trapezoid
... maybe an isosceles trapezoid

Determine the most precise name for this quadrilateral with vertices...

$Q(-4, 4)$, $B(-2, 9)$, $H(8, 9)$, $A(10, 4)$

... graph it ...

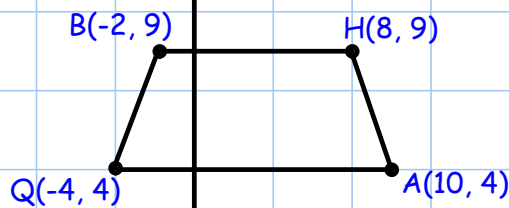


it looks like a trapezoid
... maybe an isosceles trapezoid
... how can we tell?

Determine the most precise name for this quadrilateral with vertices...

$Q(-4, 4)$, $B(-2, 9)$, $H(8, 9)$, $A(10, 4)$

... graph it ...

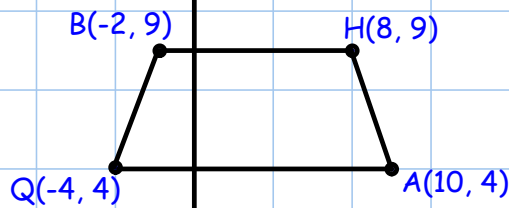


it looks like a trapezoid
... maybe an isosceles trapezoid
... how can we tell?
... check if $\overline{BH} \parallel \overline{QA}$

Determine the most precise name for this quadrilateral with vertices...

$Q(-4, 4)$, $B(-2, 9)$, $H(8, 9)$, $A(10, 4)$

... graph it ...

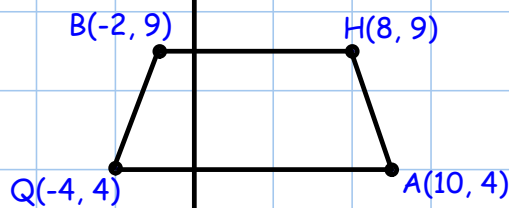


it looks like a trapezoid
... maybe an isosceles trapezoid
... how can we tell?
... check if $\overline{BH} \parallel \overline{QA}$ and $\overline{QB} \cong \overline{HA}$

Determine the most precise name for this quadrilateral with vertices...

$Q(-4, 4)$, $B(-2, 9)$, $H(8, 9)$, $A(10, 4)$

... graph it ...



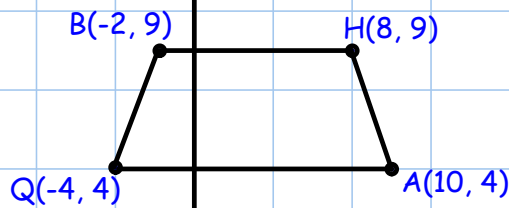
it looks like a trapezoid
... maybe an isosceles trapezoid
... how can we tell?
... check if $\overline{BH} \parallel \overline{QA}$ and $\overline{QB} \cong \overline{HA}$

slope

Determine the most precise name for this quadrilateral with vertices...

Q(-4, 4), B(-2, 9), H(8, 9), A(10, 4)

... graph it ...



it looks like a trapezoid
... maybe an isosceles trapezoid
... how can we tell?

... check if $\overline{BH} \parallel \overline{QA}$ and $\overline{QB} \cong \overline{HA}$

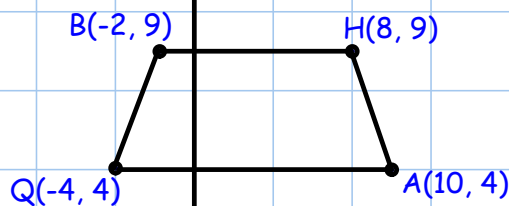
slope

distance formula

Determine the most precise name for this quadrilateral with vertices...

Q(-4, 4), B(-2, 9), H(8, 9), A(10, 4)

... graph it ...



it looks like a trapezoid
... maybe an isosceles trapezoid
... how can we tell?

... check if $\overline{BH} \parallel \overline{QA}$ and $\overline{QB} \cong \overline{HA}$

slope

distance formula

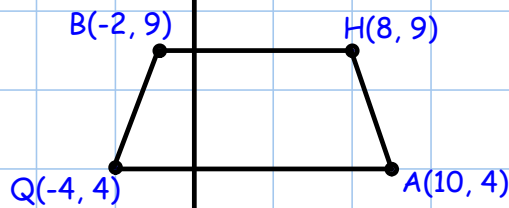
$$m_{BH} = \frac{9 - 9}{-2 - 8} = 0 \text{ (horizontal)}$$

$$m_{QA} = \frac{4 - 4}{-4 - 10} = 0 \text{ (horizontal)}$$

Determine the most precise name for this quadrilateral with vertices...

Q(-4, 4), B(-2, 9), H(8, 9), A(10, 4)

... graph it ...



it looks like a trapezoid
... maybe an isosceles trapezoid
... how can we tell?
... check if $\overline{BH} \parallel \overline{QA}$ and $\overline{QB} \cong \overline{HA}$

slope

distance formula

$$m_{BH} = \frac{9-9}{-2-8} = 0 \text{ (horizontal)}$$

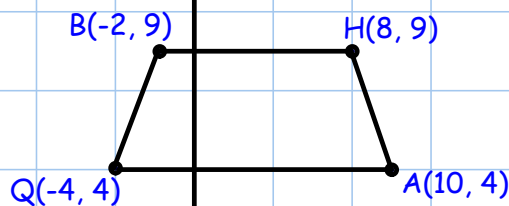
$$m_{QA} = \frac{4-4}{-4-10} = 0 \text{ (horizontal)}$$

$\overline{BH} \parallel \overline{QA}$

Determine the most precise name for this quadrilateral with vertices...

Q(-4, 4), B(-2, 9), H(8, 9), A(10, 4)

... graph it ...



it looks like a trapezoid
... maybe an isosceles trapezoid
... how can we tell?
... check if $\overline{BH} \parallel \overline{QA}$ and $\overline{QB} \cong \overline{HA}$

slope

distance formula

$$m_{BH} = \frac{9-9}{-2-8} = 0 \text{ (horizontal)}$$

$$m_{QA} = \frac{4-4}{-4-10} = 0 \text{ (horizontal)}$$

$\overline{BH} \parallel \overline{QA}$

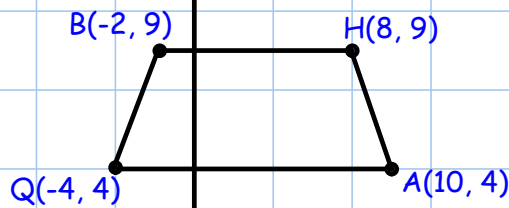
$$d_{QB} = \sqrt{(-2-4)^2 + (9-4)^2} = \sqrt{29}$$

$$d_{HA} = \sqrt{(8-10)^2 + (9-4)^2} = \sqrt{29}$$

Determine the most precise name for this quadrilateral with vertices...

Q(-4, 4), B(-2, 9), H(8, 9), A(10, 4)

... graph it ...



it looks like a trapezoid
... maybe an isosceles trapezoid
... how can we tell?

... check if $\overline{BH} \parallel \overline{QA}$ and $\overline{QB} \cong \overline{HA}$

slope

distance formula

$$m_{BH} = \frac{9-9}{-2-8} = 0 \text{ (horizontal)}$$

$$m_{QA} = \frac{4-4}{-4-10} = 0 \text{ (horizontal)}$$

$\overline{BH} \parallel \overline{QA}$

$$d_{QB} = \sqrt{(-2-4)^2 + (9-4)^2} = \sqrt{29}$$

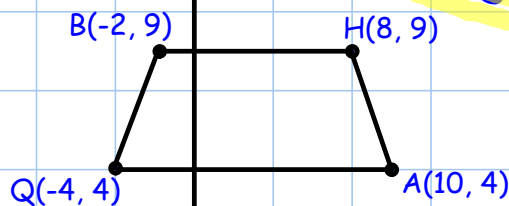
$\overline{QB} \cong \overline{HA}$

$$d_{HA} = \sqrt{(8-10)^2 + (9-4)^2} = \sqrt{29}$$

Determine the most precise name for this quadrilateral with vertices...

Q(-4, 4), B(-2, 9), H(8, 9), A(10, 4)

... graph it ...



isosceles trapezoid

it looks like a trapezoid
... maybe an isosceles trapezoid
... how can we tell?

... check if $\overline{BH} \parallel \overline{QA}$ and $\overline{QB} \cong \overline{HA}$

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$$RS = x + 10$$

$$ST = 3x - 50$$

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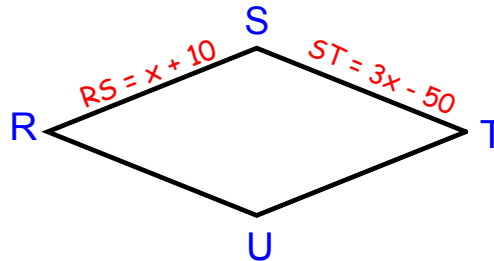
...It may help to draw and label the figure...fill in equations...

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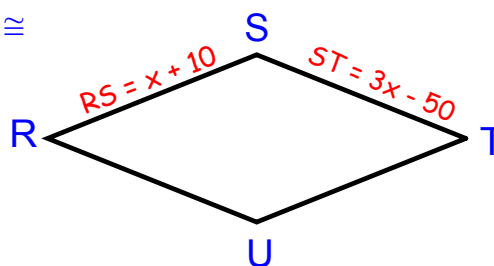
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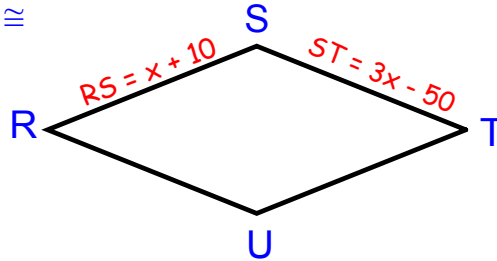
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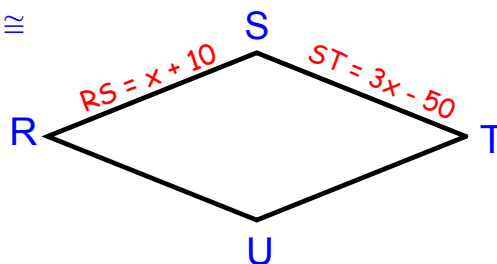
All sides of a rhombus are \cong

$$RS = ST$$

$$x + 10 = 3x - 50$$

$$60 = 2x$$

$$30 = x$$



L6.1 HW Problems

Pg 290 #1-12, 15, 16,
19-26, 29-34,
37-42, 46-49,
60-63