

parallel.

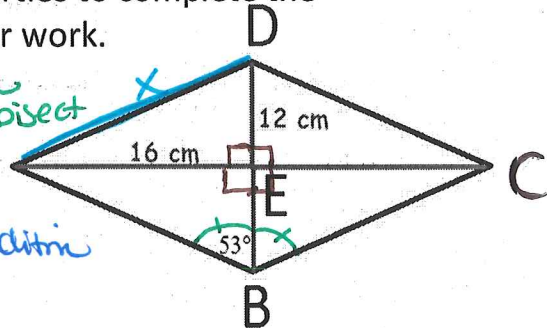
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Rhombus Warm-Up

Directions: ABCD is a rhombus. Use your rhombus properties to complete the following. You must show your geometry and justify your work.

1. Find $m\angle CBD$.

$\angle ABD \cong \angle CBD$ diags of a Rhombus bisect the \angle s.
 $\angle CBD = 53^\circ$



2. Find $m\angle ABC$.

$\angle ABD + \angle CBD = \angle ABC$ angle addition
 $53 + 53 = \angle ABC$
 $106^\circ = \angle ABC$

3. Find $m\angle ADC$.

$\angle ADC \cong \angle ABC$ op. \angle s of a Rhombus are \cong
 $\angle ADC = 106^\circ$

4. Find $m\angle AED$.

$\angle AED = 90^\circ$ diags of a Rhombus are \perp

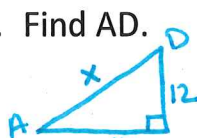
5. Find $m\angle DCB$.

$\angle DCB + \angle ABC = 180^\circ$ con. int \angle s are supple.
 $\angle DCB + 106^\circ = 180$
 $\angle DCB = 74^\circ$

6. Find $m\angle BAD$.

$\angle DCB \cong \angle BAD$ op. \angle s of a Rhombus are \cong
 $74^\circ = \angle BAD$

7. Find AD.



$12^2 + 16^2 = AD^2$
 $144 + 256 = AD^2$
 $400 = AD^2$

$\sqrt{400} = 20$
 $AD = 20\text{cm}$

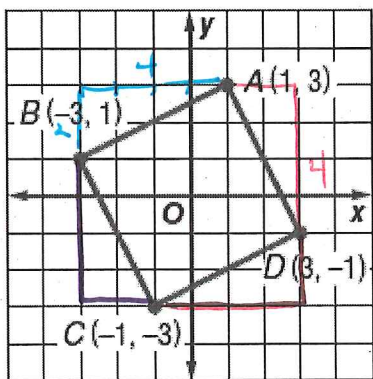
cm was given for diags! Use cm!

8. Find the perimeter of ABCD.

$P = 20 + 20 + 20 + 20$

$P = 80\text{cm}$

9. Determine if ABCD is a rhombus? SHOW ALL WORK and given a mathematical reason why the or why not.



AD: $2^2 + 4^2 = AD^2$
 $4 + 16 = AD^2$
 $\sqrt{20} = AD$
 $AD = 2\sqrt{5}$

$2^2 + 4^2 = AB^2$
 $AB = 2\sqrt{5}$

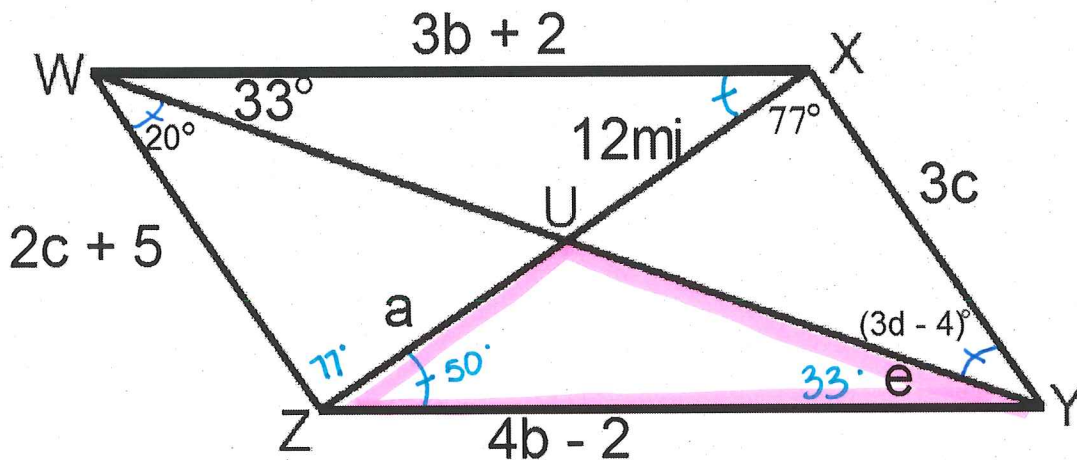
$2^2 + 4^2 = BC^2$
 $BC = 2\sqrt{5}$

$2^2 + 4^2 = CD^2$
 $CD = 2\sqrt{5}$

must conclude!
 ABCD is a rhombus
 because all 4 sides are \cong

Parallelogram Warm-Up

DEFY is a parallelogram. Show your geometry and justify work.



Find a:
 $ZU \cong UX$
 $a = 12 \text{ mi}$
 Diags of a Para bisect each other

Find b:
 $WX \cong YZ$ op. sides of a Para are \cong
 $3b + 2 = 4b - 2$
 $2 = b - 2$
 $4 = b$

Find c:
 $XY \cong ZW$ op. sides of a para are \cong
 $3c = 2c + 5$
 $c = 5$

Find ZY = $4(4) - 2$
 $ZY = 14 \text{ mi}$

Find d:
 $\angle XYW \cong \angle ZWY$ alt int \angle s are \cong
 $3d - 4 = 20$
 $3d = 24$
 $d = 8$

Find e:
 $\angle ZYW \cong \angle XWY$ alt int \angle s are \cong
 $e = 33^\circ$

Find $\angle XWZ$:
 $\angle ZWY + \angle YWX = \angle XWZ$ angle add.
 $20 + 33 = \angle XWZ$
 $53^\circ = \angle XWZ$

Find $m\angle WZY$:
 $\angle XWZ + \angle WZY = 180$ con. int. \angle s are Suppl.
 $53 + \angle WZY = 180$
 $\angle WZY = 127^\circ$

Find $m\angle UZY$:
 $\angle UZY + \angle UZW = \angle WZY$ angle add
 $\angle UZY + 77 = 127$
 $\angle UZY = 50^\circ$

Find $m\angle YUZ$:

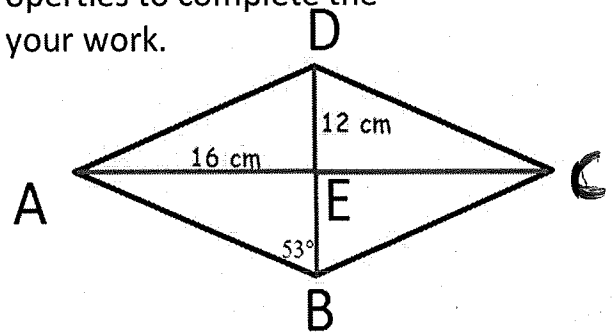
 $\angle YUZ + \angle YZU + \angle UYZ = 180$
 $\angle YUZ + 50 + 33 = 180$
 $\angle YUZ = 97^\circ$

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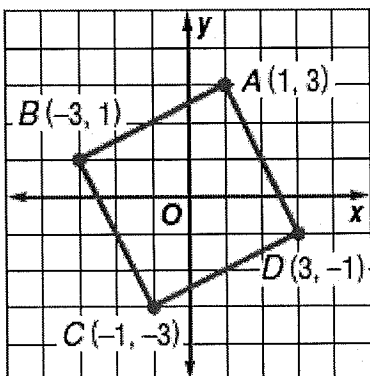
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2. Find $m\angle ABC$.
3. Find $m\angle ADC$.
4. Find $m\angle AED$.
5. Find $m\angle DCB$.
6. Find $m\angle BAD$.
7. Find AD.
8. Find the perimeter of ABCD.

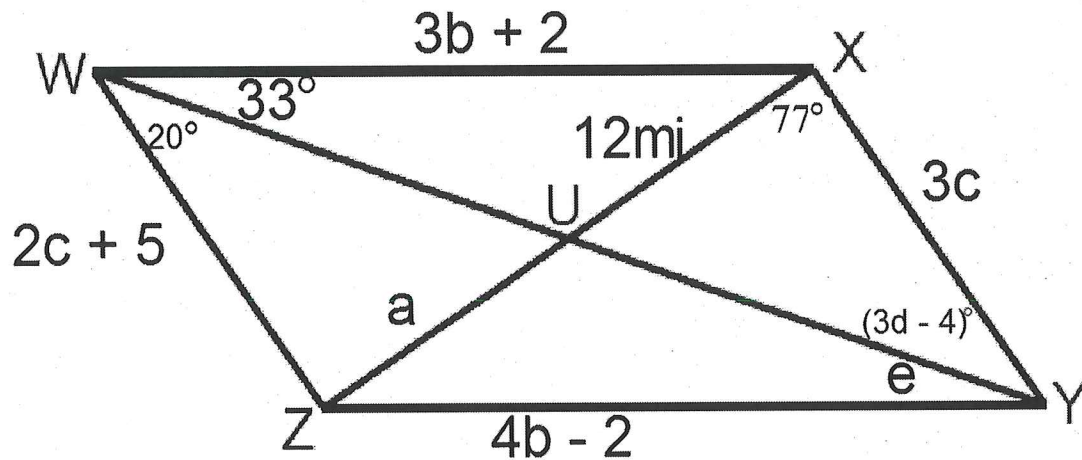


9. Determine if ABCD is a rhombus? SHOW ALL WORK and given a mathematical reason why the or why not.



Parallelogram Warm-Up

DEFY is a parallelogram. Show your geometry and justify work.



Find a:

Find b: (and ZY)

Find c:

Find d:

Find e:

Find \angle XWZ:

Find $m\angle$ WZY:

Find $m\angle$ UZY:

Find $m\angle$ YUZ: