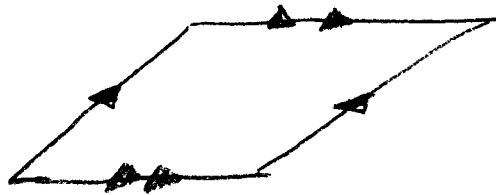


BE - Geometry I | TUESDAY 2-22-12

ACT
PRACTICE

- ① A diameter of a circle in the standard (x, y) coordinate plane has endpoints of $(2, 8)$ and $(-2, 6)$. What are the coordinates of the center of the circle?
- ② What is the circumference, in cm, of a circle with a radius of 6 cm.
- ③ The first 3 terms of an arithmetic sequence are $2\frac{1}{6}$, $3\frac{1}{3}$, and $4\frac{1}{2}$ in that order. What is the 4th term?
- Ⓐ $4\frac{5}{6}$ Ⓑ $5\frac{1}{6}$ Ⓒ $5\frac{1}{3}$
Ⓓ $5\frac{2}{3}$ Ⓔ 6

PARALLELOGRAM A QUADRILATERAL WITH
(4-sided)
both pairs of opposite
sides parallel.



Key Parallelogram Theorems (Ch. 8-2, pg 412)

- opposite sides are \cong
- opposite \angle s are \cong
- consecutive \angle s are supplementary
(total measure of the 4 \angle s = 360°)
- if a parallelogram has 1 right \angle , it has 4
(rectangle)

* The diagonals of a parallelogram
bisect each other

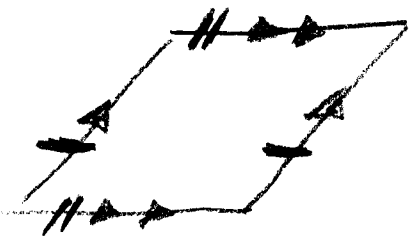


* The diagonals of
a rectangle are \cong

* The diagonals of a rhombus are \perp and they
bisect their opposite \angle s

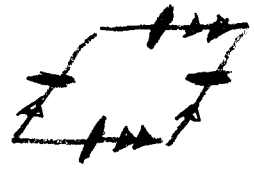
Quadrilaterals with 2 PAIRS of // SIDES

Parallelogram



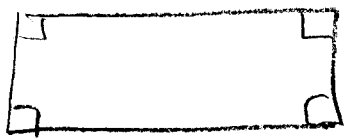
OPPOSITE SIDES // AND \cong

RHOMBUS



All 4 sides \cong

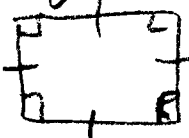
Rectangle



All 4 \angle s \cong

$\frac{360}{4} = 90^\circ$

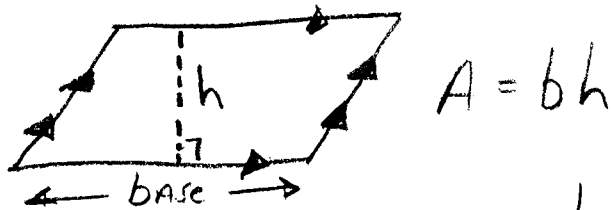
SQUARE



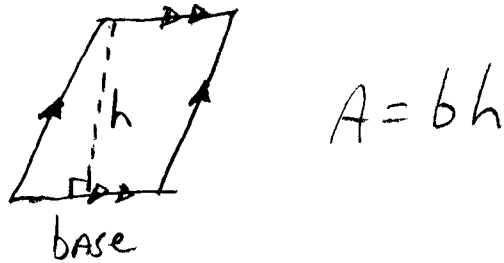
All 4 SIDES AND \angle s CONGRUENT

Ch. 11-1 Areas of Parallelograms

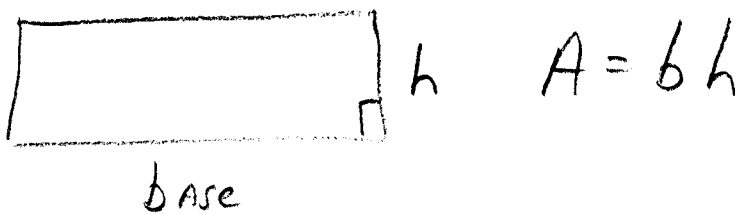
$$\text{Area } \square = bh$$



ANY SIDE may be called the base, the height is the measure of the perpendicular distance to the opposite side

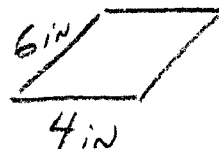


In a rectangle, the "h" is simply ONE side



Perimeter
"Around" "measure"

(EX)

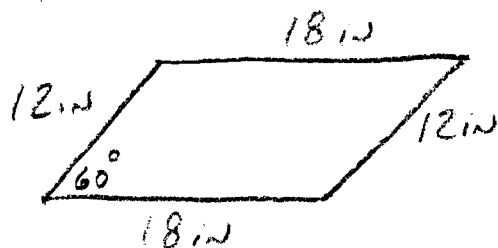


$$P = 6 + 6 + 4 + 4$$

$$P = 20 \text{ in.}$$

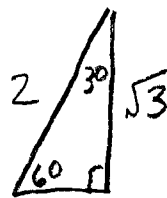
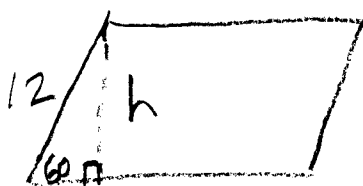
EX 1
PG 596

Find Perimeter and Area of
▭ TRVW.

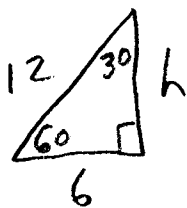


$$P = 36 + 24 = 60 \text{ in}$$

Use 30-60-90° to find h



The short side is $\frac{1}{2}$ the hypotenuse
 \therefore it is 6.



The height is therefore $(\sqrt{3})(6) = 6\sqrt{3}$

$$\therefore A = bh$$

$$A = 18(6\sqrt{3})$$

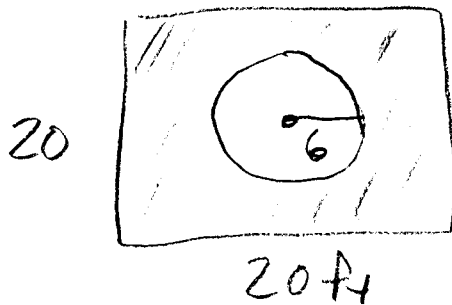
$$A = 108\sqrt{3} \text{ in}^2 \text{ EXACT}$$

$$= 108(1.732) \approx 187.1 \text{ in}^2 \text{ APPROXIMATE.}$$

5.

Every Area problem is different, finding
A larger area than you need and
subtracting what you don't need is
A common technique.

- ⊗ circular pool in backyard 20 by 20.
radius is 6 ft. Find Area of grass.



$$\text{Overall Area} = \underset{b}{(20)}(\underset{h}{20}) = 400 \text{ ft}^2$$

$$\text{pool Area} = \pi(6)^2 = 36\pi \approx 113 \text{ ft}^2$$

$$\therefore \text{grass Area} \approx 400 - 113 = \boxed{287 \text{ ft}^2}$$

Homework: Page 598 # 3-5
15-17