

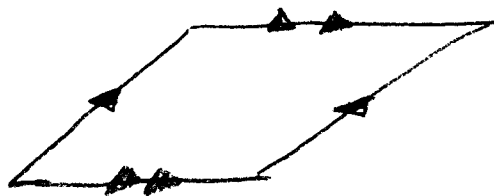
BE - Geometry 1 | TUESDAY 2-22-11

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

1

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

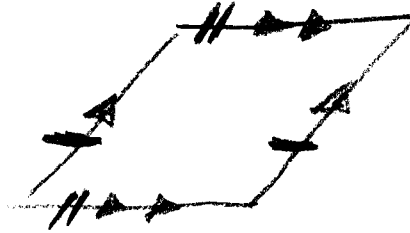


* The diagonals of
a rectangle are $\cong$

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

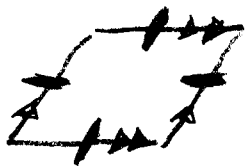
Quadrilaterals with 2 PAIRS of // SIDES

Parallelogram



OPPOSITE SIDES // AND $\cong$

RHOMBUS



All 4 sides $\cong$

Rectangle



All 4 $\angle$ s $\cong$

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

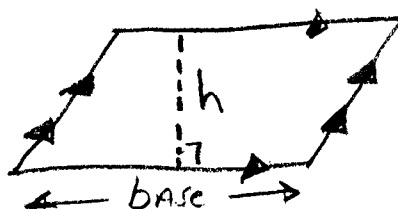
SQUARE



All 4 SIDES AND $\angle$ s CONGRUENT

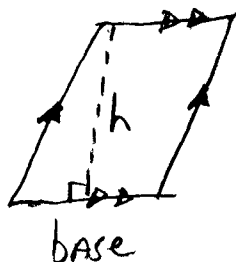
Ch. 11-1 Areas of Parallelograms

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



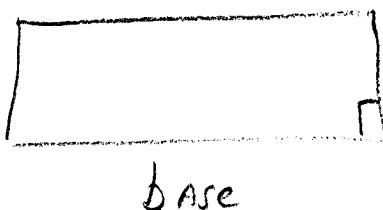
$$A = bh$$

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



$$A = bh$$

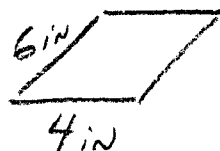
In a rectangle, the "h" is simply one side



$$A = bh$$

Perimeter
"Around" "measure"

(EX)

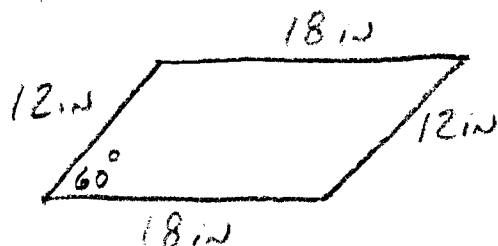


$$P = 6 + 6 + 4 + 4$$

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

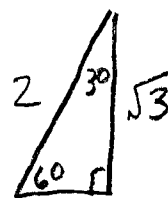
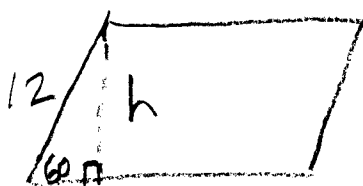
EX1
Pg 596

Find Perimeter and Area of
▭ TRVW.

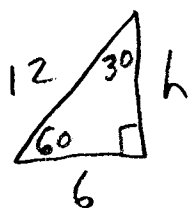


$$P = 36 + 24 = 60 \text{ in}$$

Use 30-60-90° to find h



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



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

$$\therefore A = b h$$

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

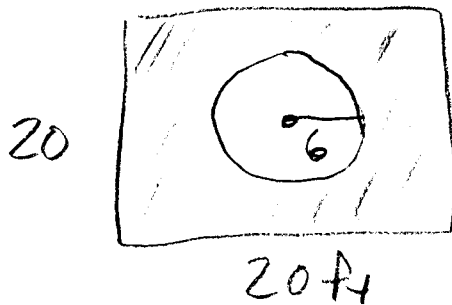
$$A = 108\sqrt{3} \text{ in}^2 \text{ EXACT}$$

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

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