UNIT 5: Geometry - Angles, Triangles, & Quadrilaterals		Assignment
5/21 Mon	Vertical Angles, Complementary Angles, Supplementary Angles, Linear Pairs Pages 1-2	
5/22 Tues	Vertical Angles, Complementary Angles, Supplementary Angles, Linear Pairs Pages 3-4	
5/23 Wed	Triangle Sum Theorem Pages 5-6	
5/24 Thurs	Quadrilaterals Flipbook	
5/25 Fri	Properties of Quadrilaterals Properties of Parallelograms Pages 7-9	
5/28 Mon	Properties of Quadrilaterals Properties of Rectangles, Rhombi, Squares Pages 10-11	
5/29 Tues	Review Pages 12-14	
5/30 Wed	Unit 5 Test	
5/31 Thurs	Exam Review	
6/1 Fri	Exam Review	

Obtuse Vertical Angles
Acute Vertical Angles
Acute Vertical Angles
Obtuse Vertical Angles

sum = 180°

$120°$ $60°$

supplementary angles

1
2
Complementary Angles

$\angle 1 + \angle 2 = 90°$

2 pairs of parallel sides
Quadrilaterals
No pairs of parallel sides

Parallelograms

1 pair of parallel sides

Kites

Rectangles

Rhombi

Trapezoids

Squares

Without measuring, find the measure of each missing angle.

B
58°
A
C
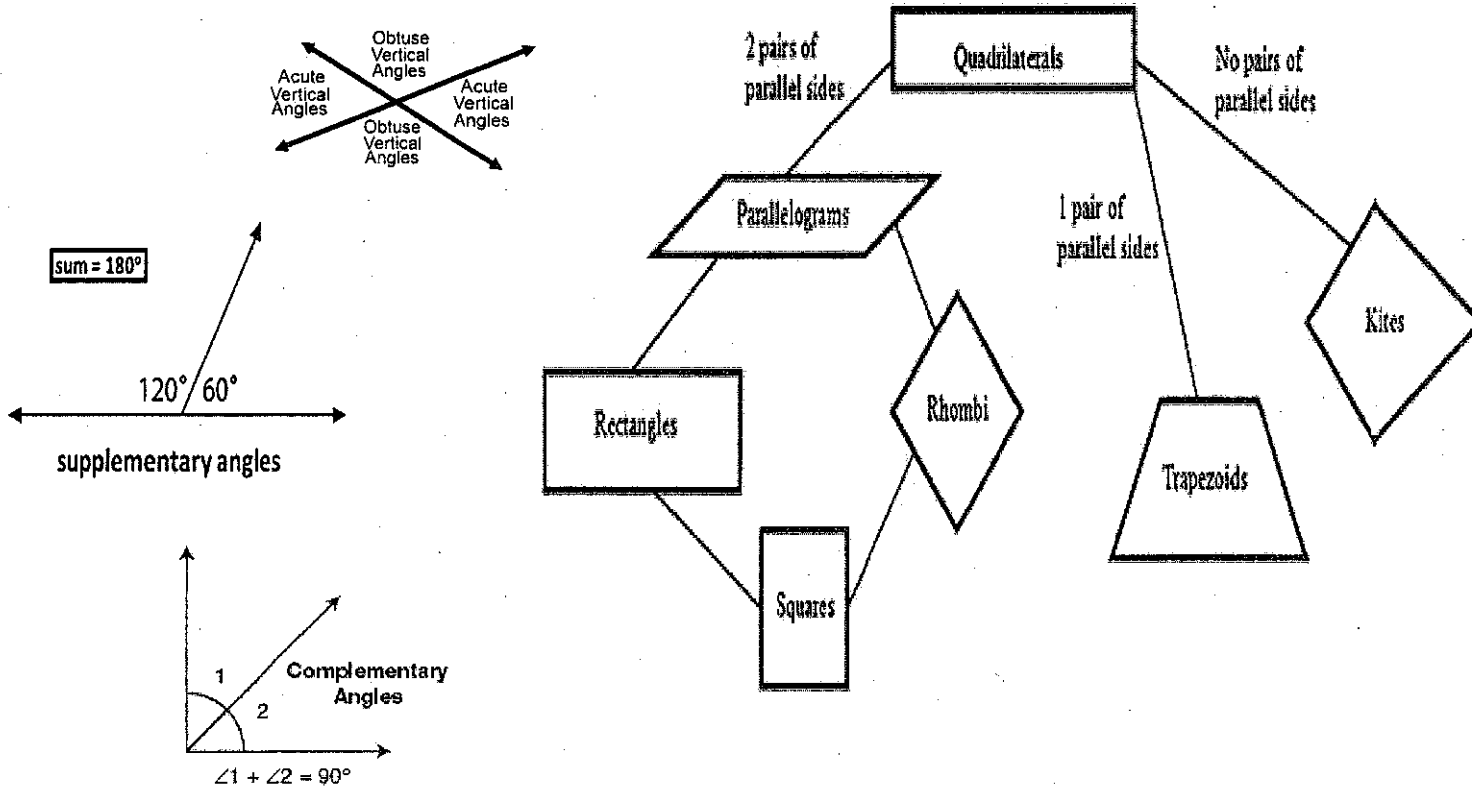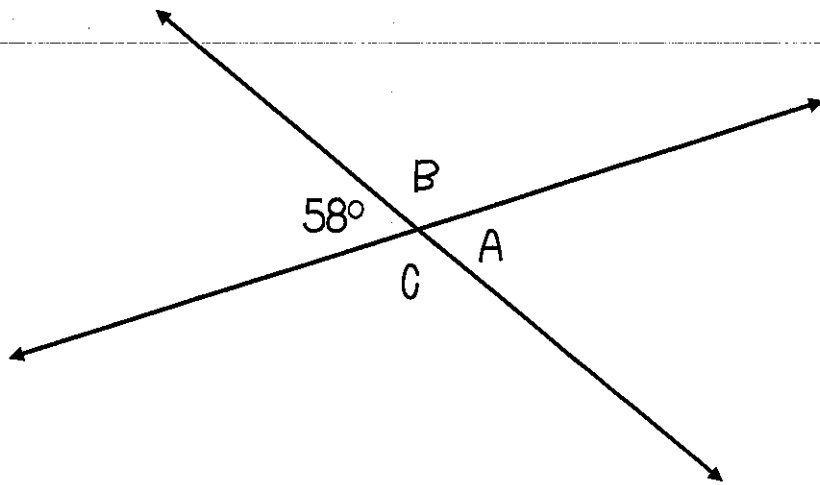
1   ★☆☆☆

Without measuring, find the measure of each missing angle.
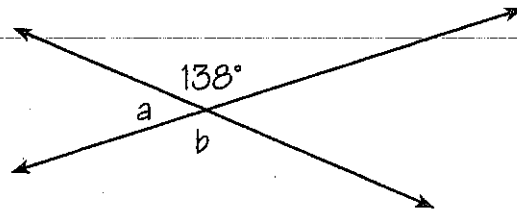
D
F
E
152°
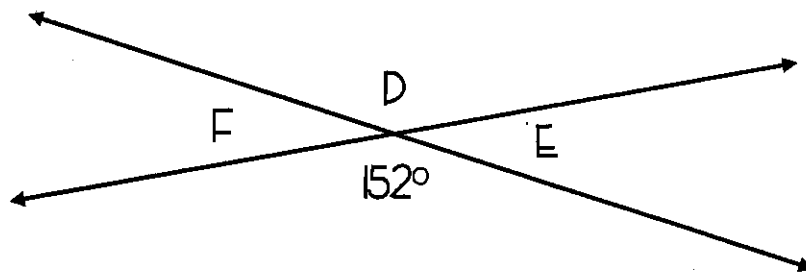
2   ★☆☆☆

What question do you ask a basketball player from Indiana?

Solve for the missing angle measures. To figure out the joke, place the letter of each problem above the answer on the line(s) below. Some blanks will go unfilled.
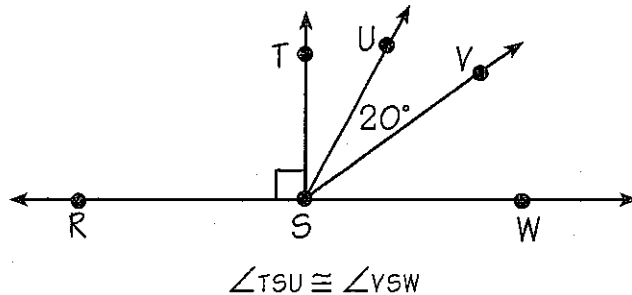
C: a = _____
O: b = _____

138°
a
b

E: m∠TSW = _____
O: m∠TSU = _____
H: m∠USW = _____
A: m∠RSV = _____

T   U   V
20°
R   S   W

∠TSU ≅ ∠VSW

R: c = _____
H: d = _____
S: e = _____
O: f = _____
W: g = _____
C: h = _____
I: i = _____

32° c
d
h 28°
e
60° i
g 122°
f
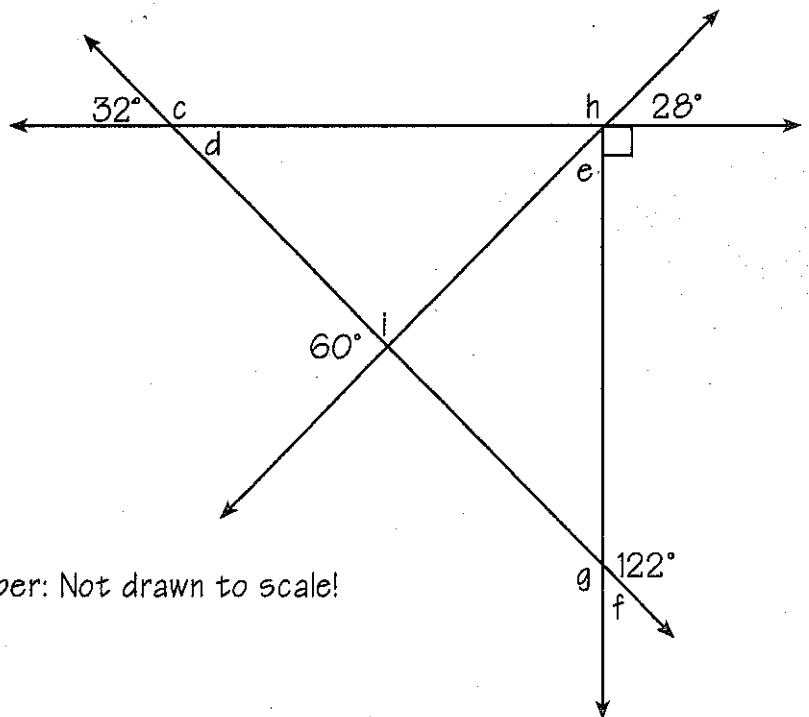
Remember: Not drawn to scale!

_____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ ?
122° 55° 58° 35° 62° 120° 90° 148° 71° 152° 138° 145° 42° 32°

Without measuring, find the measure of each missing angle.

68° T
S N
P 49°
O Q
R
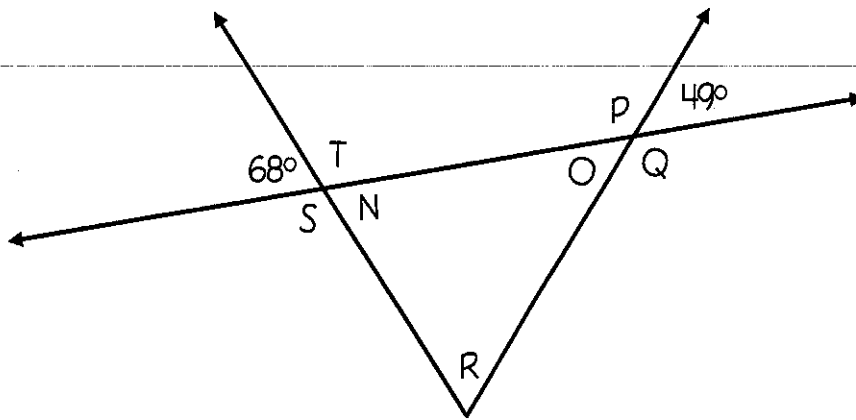
3 ★★☆☆

Without measuring, find the measure of each missing angle.
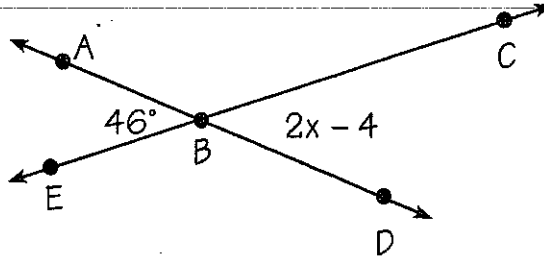

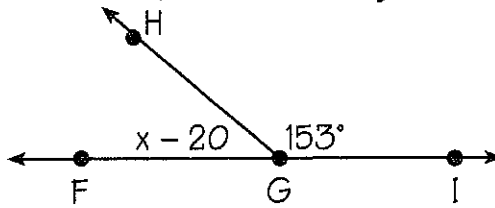154° X
W U
129° V
Y Z

4 ★★☆☆

3
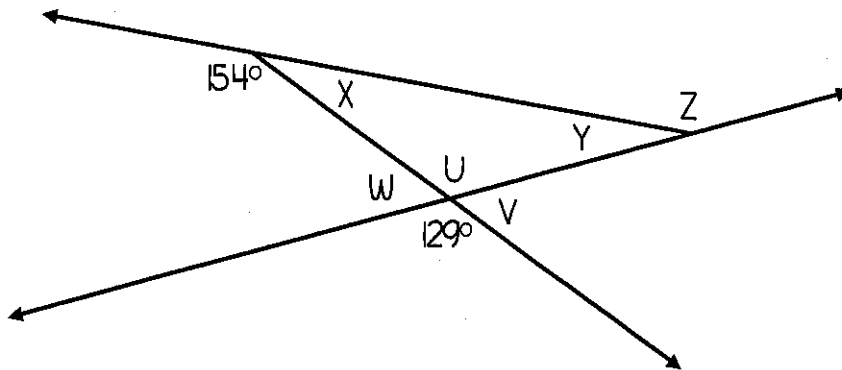
What is the playing surface called where the college basketball semi-finals are played?

Find the missing angle measures or variables. To figure out the joke, place the letter of each problem above the answer on the line(s) below. Some blanks will go unfilled.
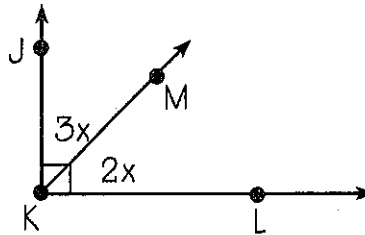
E: x = _____

O: m∠ABC = _____

F: x = _____
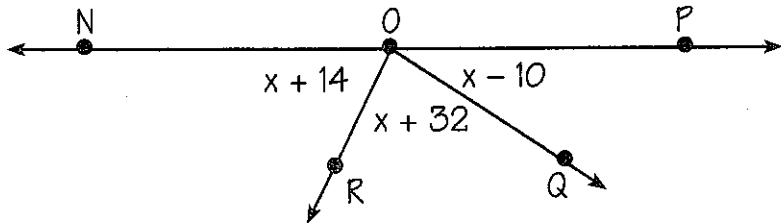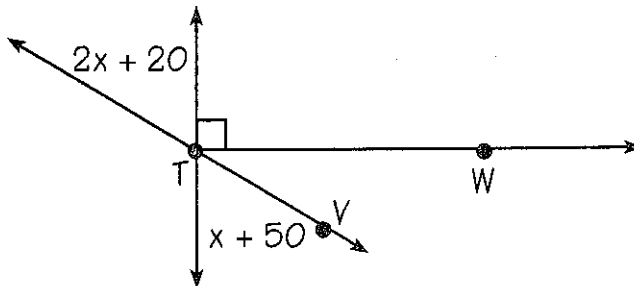
L: m∠FGH = _____

I: x = _____

R: m∠JKM = _____

N: m∠MKL = _____

H: x = _____

O: m∠NOR = _____

A: m∠ROQ = _____

F: m∠QOP = _____

T: x = _____

L: m∠VTW = _____

(Diagram 1: Lines intersecting at B. Ray A and ray D form one line, ray E and ray C form another. Angle ABE = 46°, angle CBD labeled 2x − 4.)

(Diagram 2: Line FGI with ray GH. Angle at G labeled x − 20 and 153°.)

(Diagram 3: Right angle at K between ray KJ and ray KL. Ray KM splits it; angle JKM = 3x, angle MKL = 2x.)

(Diagram 4: Line NOP with rays OR and OQ below. Angles x + 14, x + 32, x − 10.)

(Diagram 5: Lines through T. Ray with 2x + 20, ray to W, ray to V labeled x + 50, with a right angle marked.)

$$\overline{30}\ \overline{48}\ \overline{25}\ \overline{51}\ \overline{47}\ \overline{18}\ \overline{36}\ \overline{80}\ \overline{27}\ \overline{15}\ \overline{38}\ \overline{10}\ \overline{134}\ \overline{62}\ \overline{54}$$

Segments, Angles, and Lines — Complementary, Supplementary, and Vertical Angles

Joke #4

④

What is the main ingredient in Professor Crazy's dog biscuits?

u

32°

71°

88°

i

23°

r

c + 40

c

c − 10

54°

2o

o

54°

4e   4e

4e

L

2L

3L

84°

6f

6f

$\overline{16}$ $\overline{50}$ $\overline{42}$ $\overline{30}$ $\overline{30}$ $\overline{69}$ $\overline{15}$ $\overline{27}$ $\overline{8}$ $\overline{30}$ $\overline{42}$ $\overline{77}$ $\overline{36}$ $\overline{24}$ $\overline{53}$ $\overline{71}$

Triangles — Interior Angles

NAME _____ DATE _____

Practice

Measuring Angles in Triangles

Find the value of x.
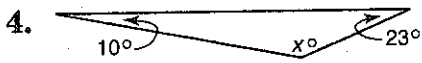
1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

11.

12.

13.

14.

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Geometry
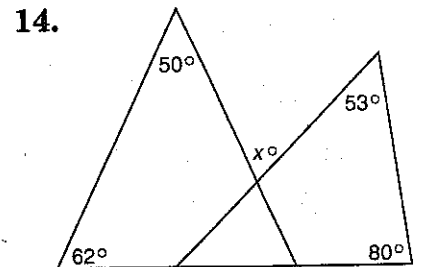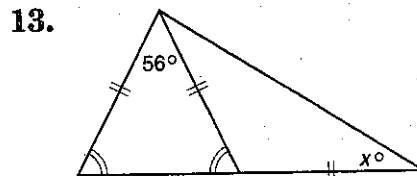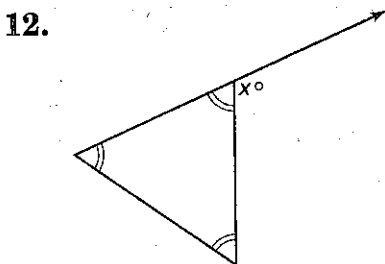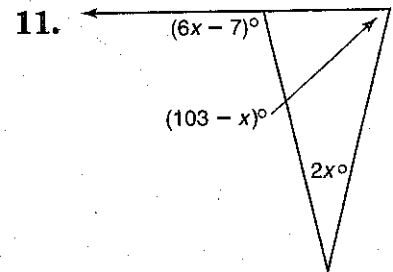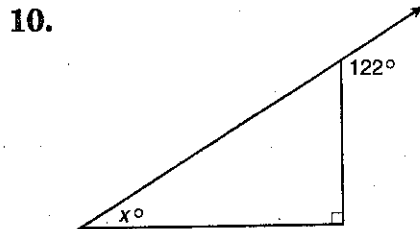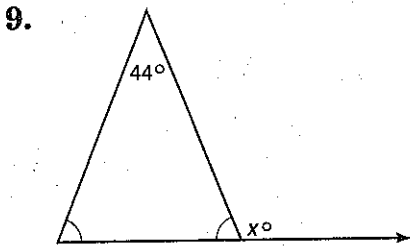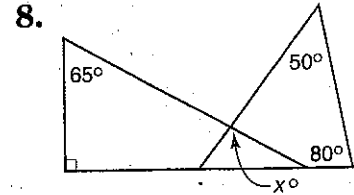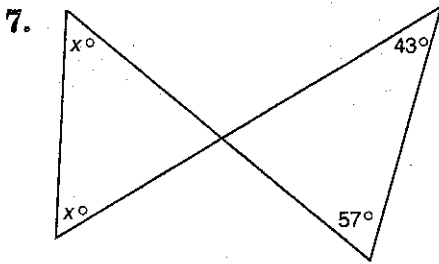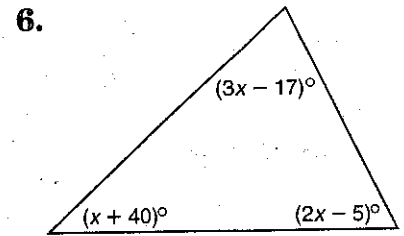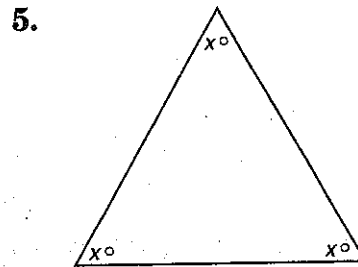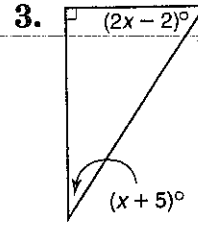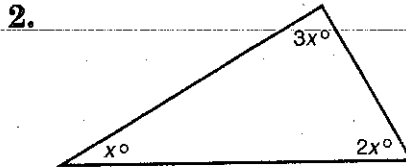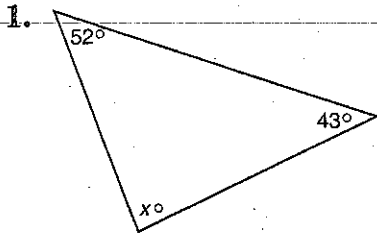
Properties of Quadrilaterals Notes

What is a quadrilateral?

What are the special types of quadrilaterals?

Parallelogram:

- Opposite sides are _____ and _____ in length.
- Opposite angles are _____.
- Consecutive angles are _____.
- Diagonals _____ each other.

Rectangle:

- Opposite sides are _____ and _____ in length.
- Every angle is _____.
- Consecutive angles are _____.
- Diagonals are _____.
- Diagonals _____ each other.

Square:

- Opposite sides are _____.
- All sides are _____ in length.
- Every angle is _____.
- Consecutive angles are _____.
- Diagonals are _____.
- Diagonals _____ each other.
- Diagonals _____ opposite angles.
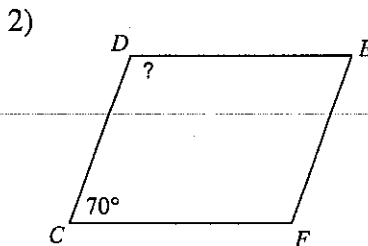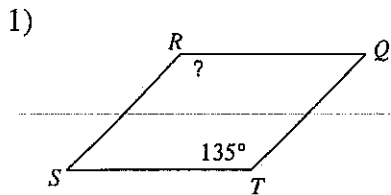- Diagonals are _____ to each other.

Rhombus:

- Opposite sides are _____.
- All sides are _____ in length.
- Opposite angles are _____.
- Consecutive angles are _____.
- Diagonals _____ each other.
- Diagonals _____ opposite angles.
- Diagonals are _____ to each other.

Name_____

Properties of Parallelograms
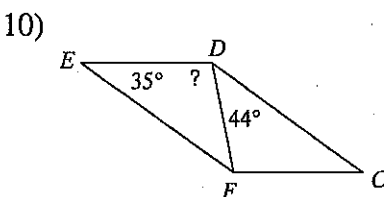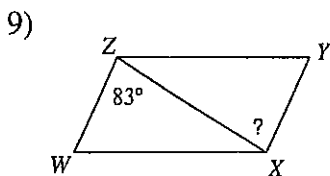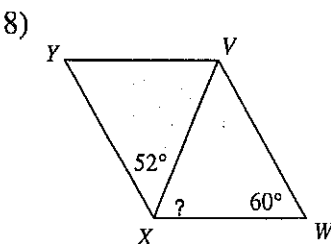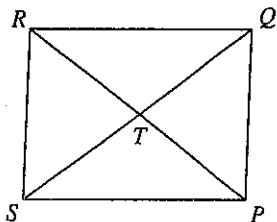
Date_____ Period_____

Find the measurement indicated in each parallelogram.
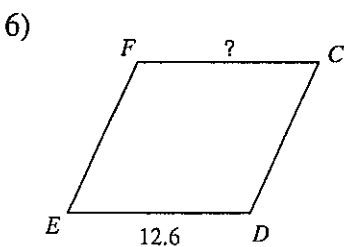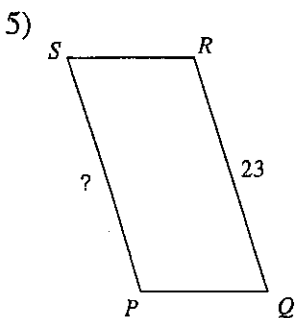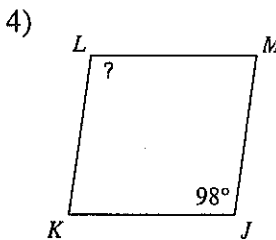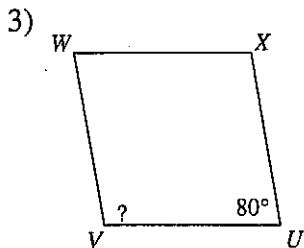
1)

135°

2)

70°

3)

80°

4)

98°

5)

23

6)

12.6

7) $RT = 19.8$
Find RP

8)

52°   60°

9)

83°

10)

35°   44°

Find the missing angle measures or lengths. To figure out the joke, place the letter of each problem above the answer on the line(s) below. Some blanks will go unfilled.

A: m∠C = 110°, m∠B = _____

N: AB = 12, CD = _____

O: m∠D = 60°, m∠B = _____

R: AD = 8, BC = _____

A: m∠A + m∠B + m∠C + m∠D = _____
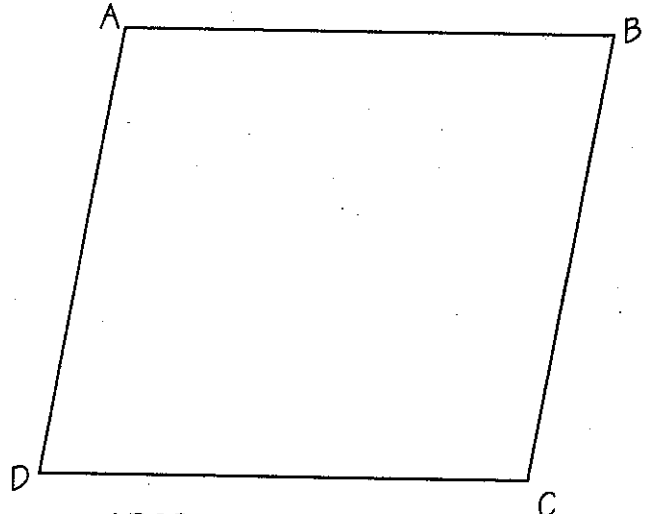
ABCD is a parallelogram

T: EH = 10, FG = _____

I: EJ = 6, JG = _____

I: HJ = 7, HF = _____

A: m∠HEG = _____

N: m∠HEF = _____

N: m∠EFG = _____

K: m∠EJF = _____

C: m∠EFH = _____

P: m∠HFG = _____

EFGH is a parallelogram

16 360 5 76 14 12 97 25 51 21 8 127 70 10 6 60 53 92
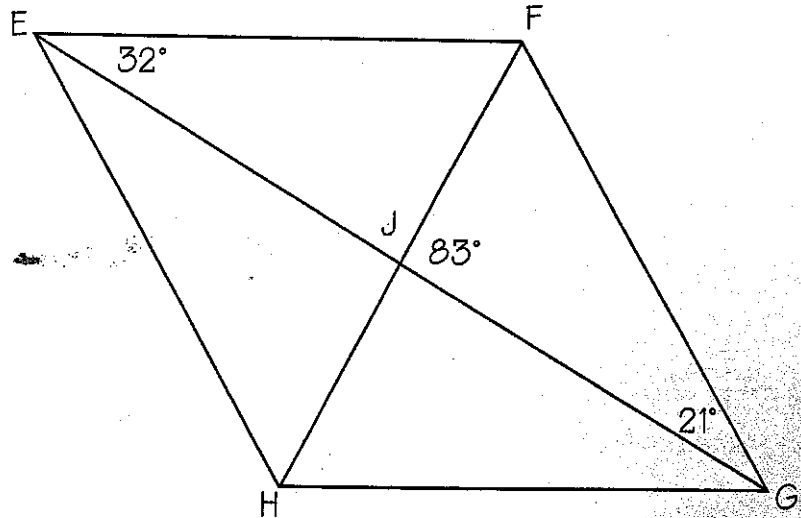
Geo Joke Worksheets © 2002 NASCO

Find the missing angle measures or lengths. To figure out the joke, place the letter of each problem above the answer on the line(s) below.

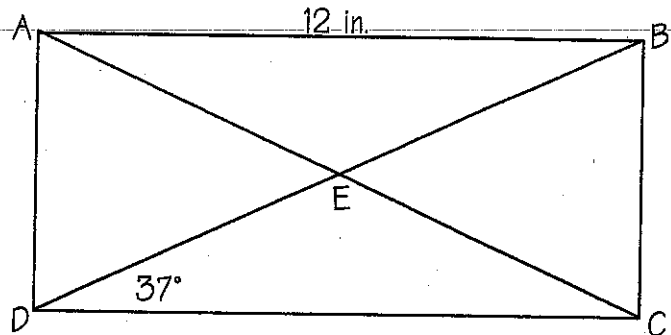**O:** DC = _____

D: BC = _____

T: DE = _____

B: m∠DBA = _____

A: m∠DAC = _____

H: m∠DEC = _____

O: m∠CEB = _____

12 in.

A   B

E

37°

D   C

ABCD is a rectangle, AC = 15

O: m∠JGH = _____

I: m∠FJH = _____

E: m∠KFG = _____

H: GH = _____

O: KG = _____

Y: FK = _____

G: FH = _____

F   6 ft.   G

K

60°

J   H
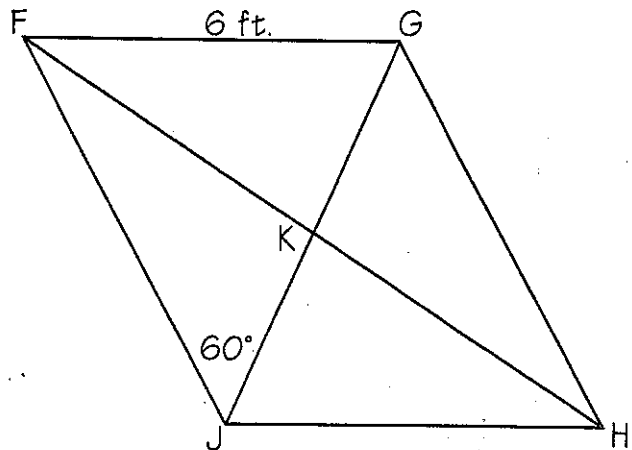
FGHJ is a rhombus

H: m∠OMN = _____

W: PM = _____

T: LN = _____

N: m∠OPL = _____

L   M

P

6 cm

O   N
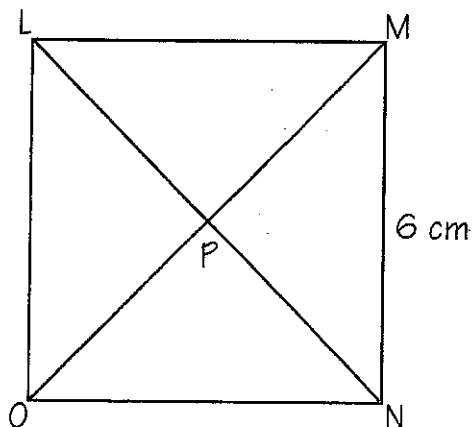
LMNO is a square

45	30	6	53	9	90	12	37	74	9	$3\sqrt{3}$	$6\sqrt{2}$	3	$6\sqrt{3}$	60	$3\sqrt{2}$	120	7.5	106

Polygons — Rectangle, Rhombus, and Square

Joke #29

⑩

Practice

Area of Parallelograms

Find the area of each figure or shaded region. Assume that angles that appear to be right are right angles.
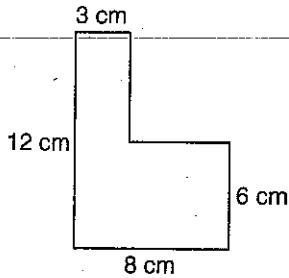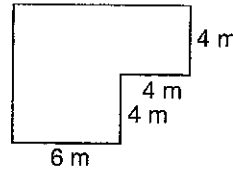
1.

```
          3 cm
        ┌──┐
        │  │
  12 cm │  │
        │  └────┐
        │    6 cm│
        │        │
        └────────┘
          8 cm
```
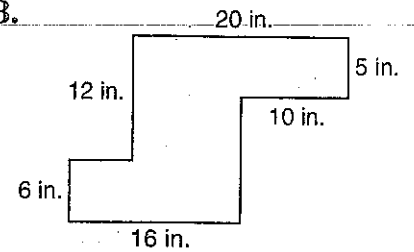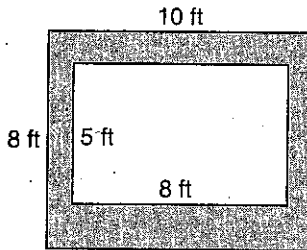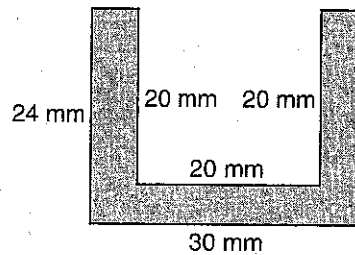
2.

```
   ┌─────────┐
   │         │ 4 m
   │      ┌──┘
   │  4 m │
   │  4 m │
   └──────┘
     6 m
```

3.

```
          20 in.
      ┌──────────┐ 5 in.
12 in.│          └──┐
      │          10 in.│
 6 in.│              │
      └──────────────┘
          16 in.
```

4.

```
        10 ft
  ┌──────────────┐
  │░░░░░░░░░░░░░░│
  │░┌──────────┐░│
8 ft│ 5 ft      │░│
  │░│      8 ft │░│
  │░└──────────┘░│
  │░░░░░░░░░░░░░░│
  └──────────────┘
```

5.

```
  ┌──┐        ┌──┐
  │░░│        │░░│
24 mm│ 20 mm  20 mm│
  │░░│        │░░│
  │░░│  20 mm │░░│
  │░░└────────┘░░│
  │░░░░░░░░░░░░░░│
  └──────────────┘
       30 mm
```

6.

```
        5 m  4 m  5 m
  5 m ┌───┐░░░┌───┐ 5 m
      │   │░░░│   │
  4 m │░░░░░░░░░░░│ 4 m
      │   │░░░│   │
  5 m └───┘░░░└───┘ 5 m
        5 m  4 m  5 m
```
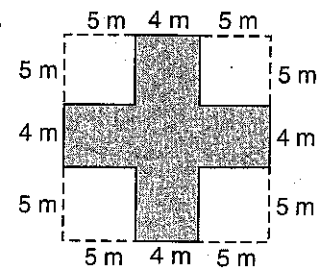
7. The sides of a parallelogram have lengths 8 inches and 16 inches and one of the angles of the parallelogram has a measure of 45°. Find the area of the parallelogram.

8. Find the area of the parallelogram that has vertices $A(0, 0)$, $B(2, 7)$, $C(10, 7)$, and $D(8, 0)$.

9. Find the area of the parallelogram that has vertices $W(-4, 15)$, $X(1, 15)$, $Y(4, 10)$, and $Z(-1, 10)$.

Geometry
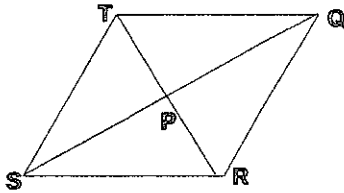
No Joking Around

a
51°
h
J
b
c
e
f
i
62°
d
g
k
54°
m
n
34°
p
q
r
s
t
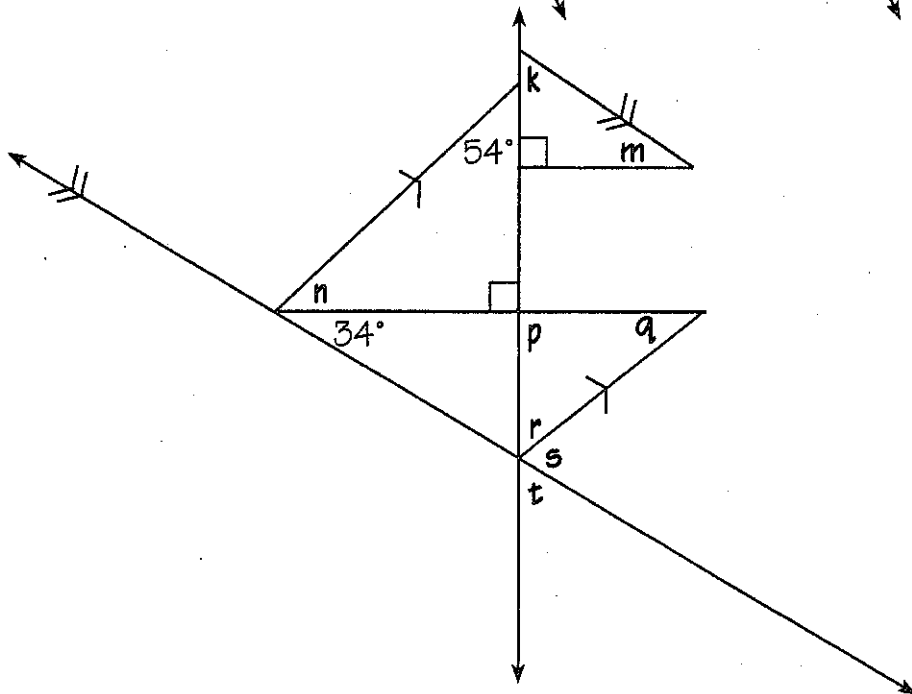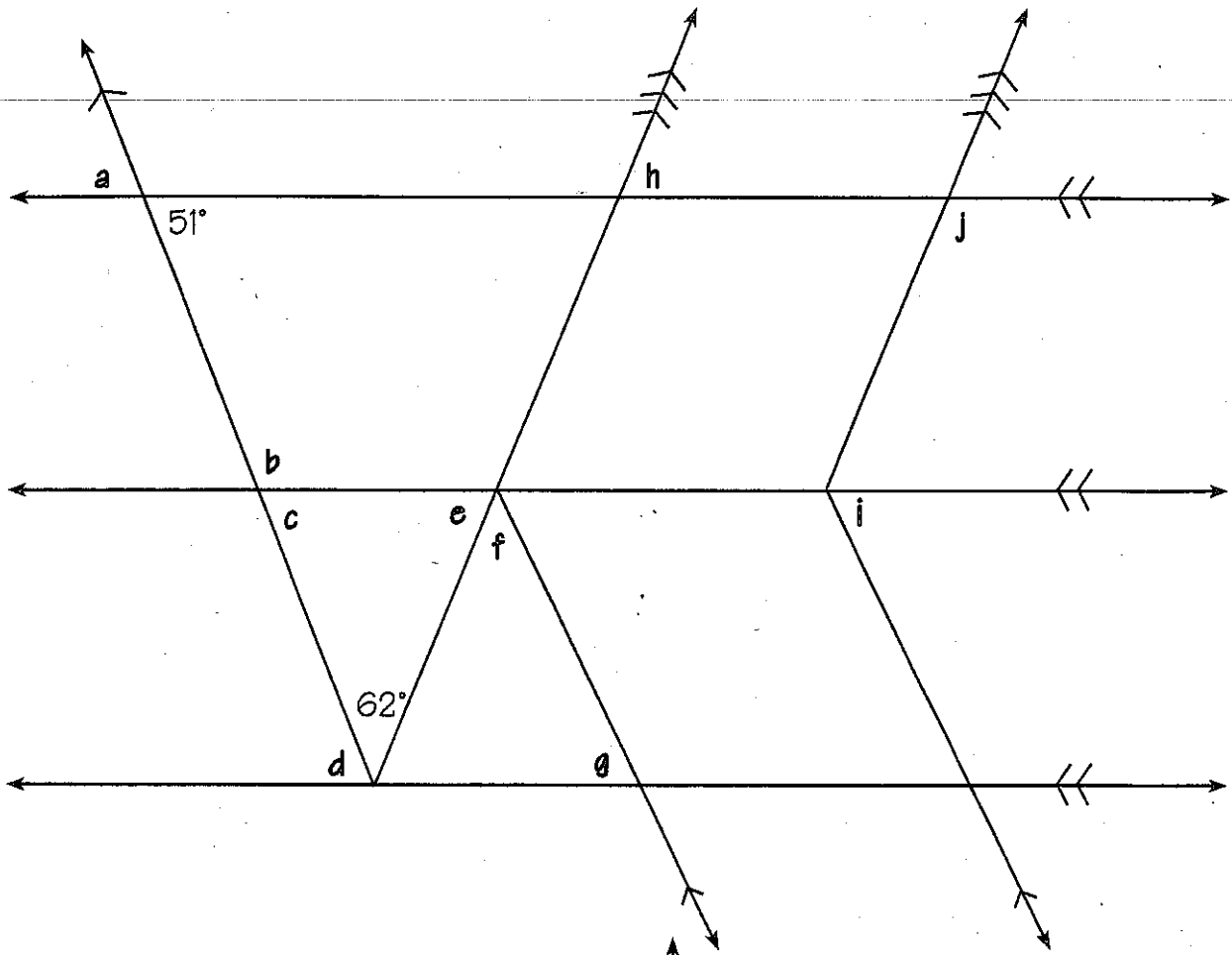
(12)

2

QRST is a parallelogram with diagonals that intersect at P.
If $QP = 3x - 11$ and $PS = 2x + 9$, find QS.

1
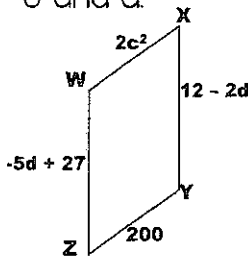
If MNOP is a parallelogram and $m\angle M = x°$ and $m\angle P = (2x - 3)°$, find the value of $m\angle O$ and $m\angle N$.
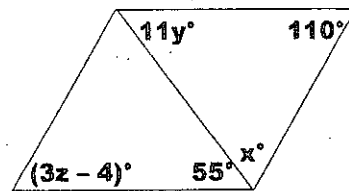
5

WXYZ is a parallelogram. Find the value of 'c' and 'd.'

2c²

W

12 – 2d

-5d + 27

Y

Z   200

4

Find the value of 'x', 'y', and 'z'.
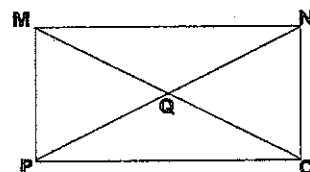
11y°   110°

(3z – 4)°   55°   x°

9

XYZW is a rectangle with diagonals that intersect at P. $XZ = 4x - 1$ and $WP = x + 7$. Find the value of PY.
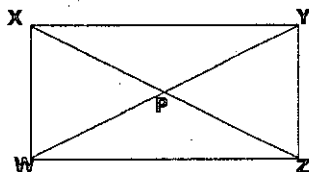
6

MNOP is a rectangle with diagonals that intersect at Q. If $MQ = 4x + 1$ and $MO = 46$, find the value of 'x'.

(13)

1. EFGH is a square with a perimeter of 64. Find the length of the diagonal of the square.

10. LMNO is a rectangle with diagonals that intersect at E. Find the value of 'k' if $m\angle OLN = (4k+8)°$ and $m\angle MNL = (5k-8)°$. Find the $m\angle OLN$ and $m\angle MNL$.

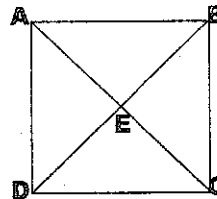**5.** ACKJ is a square. If $AC = 5.6y + 13.5$ and $CJ = 2.8y + 27.5$, find the value of 'y' that guarantees ACKJ is a square.
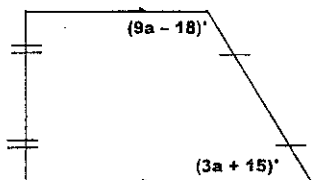
13. BCDA is a square with diagonals that intersect at E. Find the value of 'x' if $m\angle CAB = (3.5x + 10)°$.

2. Find the value of 'a'.

(9a – 18)°

(3a + 15)°

8. KYLE is a rhombus with diagonals that intersect at W. If $m\angle YKL = (12x^2)°$ and $m\angle EKL = 36°$. Find the value of 'x'.

⑭