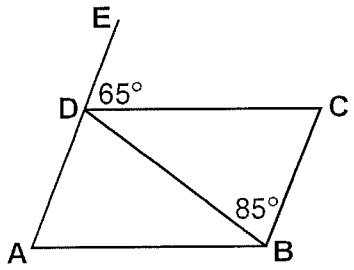
Name: _____ Geometry

Quadrilaetral Review

1) In parallelogram ABCD, $m\angle B = (4x + 15)°$ and $m\angle D = (6x - 27)°$. Find $m\angle C$.

2) In the accompanying diagram of parallelogram ABCD, side $\overline{AD}$ is extended through D to E and $\overline{DB}$ is a diagonal.



If $m\angle EDC = 65°$ and $m\angle CBD = 85°$, find $m\angle CDB$.

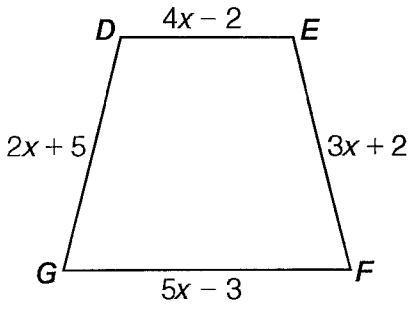
3) In rectangle ABCD with diagonals $\overline{AC}$ and $\overline{BD}$, $AC = 3x - 15$ and $BD = 7x - 55$. Find x.

4) The diagonals of a rhombus have lengths of 12 centimeters and 16 centimeters. Find the number of centimeters in the length of *one* side of the rhombus.

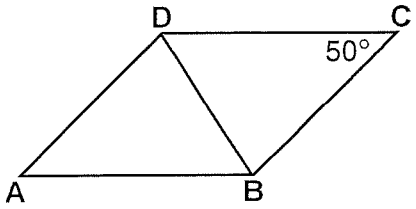
5) The diagonals of a quadrilateral are congruent but do *not* bisect each other. This quadrilateral is

A) a parallelogram
B) an isosceles trapezoid
C) a rhombus
D) a rectangle

6) In the diagram below of isosceles trapezoid $DEFG$, $\overline{DE} \parallel \overline{GF}$, $DE = 4x - 2$, $EF = 3x + 2$, $FG = 5x - 3$, and $GD = 2x + 5$. Find the value of x. [*Show all work.*]



7) In the accompanying diagram of rhombus ABCD, diagonal $\overline{BD}$ is drawn and $m\angle C = 50°$.



Find $m\angle ADB$.

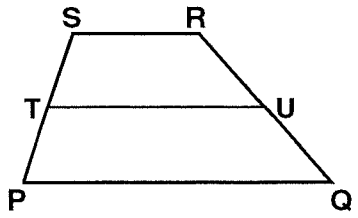
8) A parallelogram must be a rhombus if the

A) opposite sides are congruent
B) opposite angles are congruent
C) diagonals are congruent
D) diagonals are perpendicular

9) Which statement is *not always* true about a parallelogram?

A) Opposite sides are parallel.
B) Opposite angles are congruent.
C) Opposite sides are congruent.
D) Diagonals are congruent.

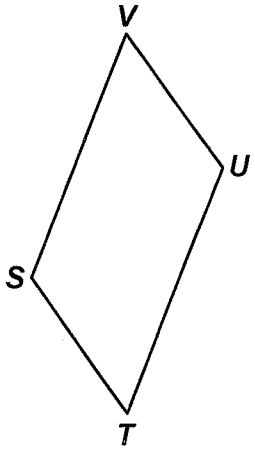
10) In the diagram below, PQRS is a trapezoid with $\overline{SR} \parallel \overline{PQ}$. $\overline{TU}$ is the median.



If SR = 5 and TU = 9, what is the length of $\overline{PQ}$?

A) 4
B) 13
C) 23
D) 7

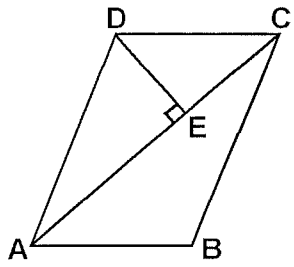
11) In the diagram below of parallelogram $STUV$, $SV = x + 3$, $VU = 2x - 1$, and $TU = 4x - 3$.



What is the length of $\overline{SV}$?

A) 7
B) 4
C) 5
D) 2

12) In the accompanying diagram of parallelogram ABCD, $\overline{DE}$ is perpendicular to diagonal $\overline{AC}$.



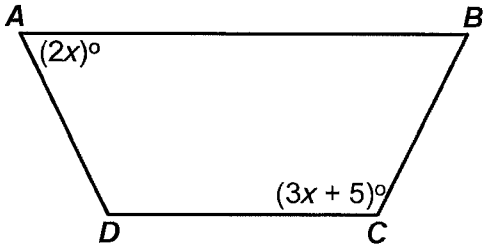
If m∠BAC = 40° and m∠ADE = 70°, find m∠B.

13) In isosceles trapezoid *ABCD*, $\overline{AB} \cong \overline{CD}$. If *BC* = 20, *AD* = 36, and *AB* = 17, what is the length of the altitude of the trapezoid?

A) 12 C) 10
B) 16 D) 15

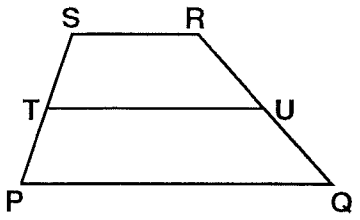
14) In rhombus ABCD, AB = $2x + 15$ and BC = $4x - 5$. Find x.

15) The diagram below shows isosceles trapezoid *ABCD* with $\overline{AB} \parallel \overline{DC}$ and $\overline{AD} \cong \overline{BC}$. If m∠*BAD* = $2x°$ and m∠*BCD* = $(3x + 5)°$, find m∠*BAD*. [*Show all work.*]



16) In parallelogram ABCD, m∠A = $(3x + 40)°$ and m∠B = $(x + 60)°$. Find the value of x.

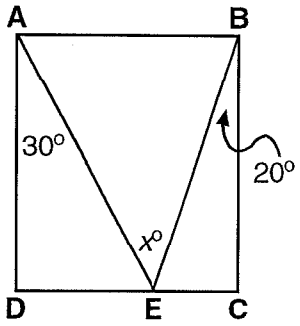
17) In the diagram below, PQRS is a trapezoid with $\overline{SR} \parallel \overline{PQ}$. $\overline{TU}$ is the median.



If $SR = 3x - 3$, $PQ = 4x + 2$, and $TU = 10$, find SR.

18) If the diagonal of a square has a length of $8\sqrt{2}$, find the perimeter.

19) In the accompanying diagram, ABCD is a rectangle, E is a point on $\overline{CD}$, $m\angle DAE = 30°$, and $m\angle CBE = 20°$.



What is $m\angle x$?

A) 60°
B) 25°
C) 50°
D) 70°

20) In parallelogram PQRS, diagonals $\overline{PR}$ and $\overline{QS}$ intersect at T. If $QT = 2x - 4$ and $QS = x^2 - 4$, find x.

1) 81°

2) 30°

3) 10

4) 10

5) B

6) 3

7) 65°

8) D 9) D 10) B 11) C

12) 120°

13) D

14) 10

15) $m\angle BAD = 70°$

16) 20

17) 6

18) 32

19) C

20) 6