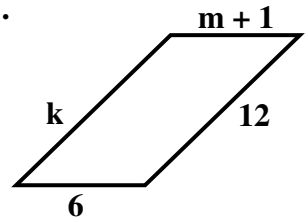
Geometry Name:_____

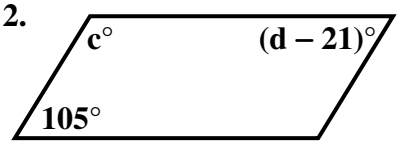
Assignment 8.2

Find the value of the variable(s) in the parallelogram.

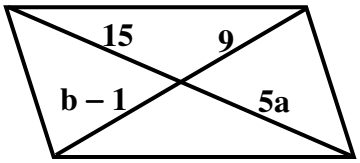
1.



2.



3.



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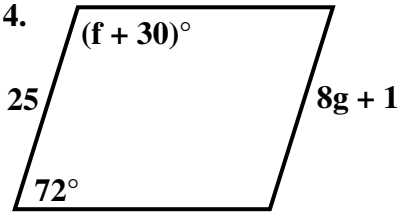
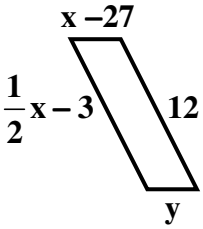
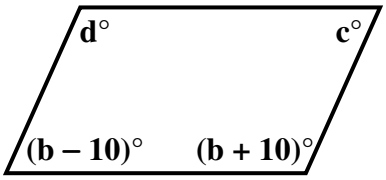


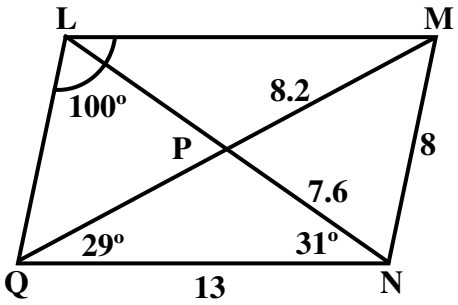
5.



6.



7. Find the indicated measure in ▱LMNQ.



a) LP =

b) m∠LMN =

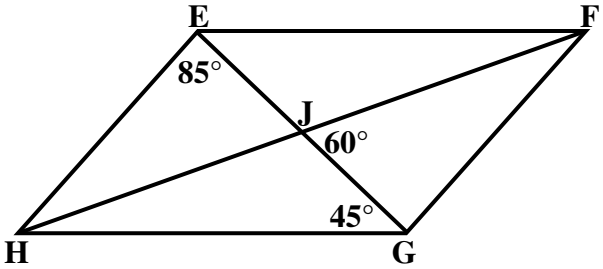
c) m∠LQM =

d) LM =

e) QM =

f) LN =

8. Find the indicated measure in ▱EFGH.



a) m∠EJH =

b) m∠EJF =

c) m∠FEG =

d) m∠EGF =

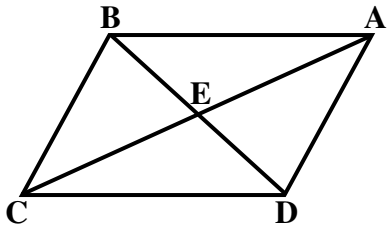
e) m∠GFJ =

f) m∠EFJ =

9. Given: ▱ABCD

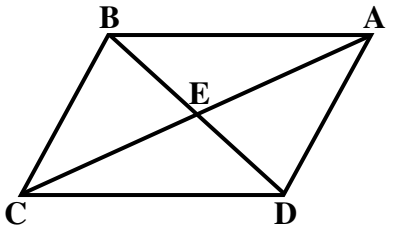
Prove: $\Delta ABE \cong \Delta CDE$

Approach #1



Statement	Reason
1. ▱ABCD	**1.** Given
2. $\overline{BA} \cong \overline{CD}$	**2.a)** _____
3. $\angle ABD \cong \angle CDB$	**3.b)** _____
4. $\overline{BE} \cong \overline{ED}$	**4.c)** _____
5. $\Delta ABE \cong \Delta CDE$	**5.d)** _____

Approach #2



Statement	Reason
1. ▱ABCD	**1.** Given
2. $\angle BEA \cong \angle DEC$	**2.a)** _____
3. $\angle BAE \cong \angle DCE$	**3.b)** _____
4. $\overline{AE} \cong \overline{EC}$	**4.c)** _____
5. $\Delta ABE \cong \Delta CDE$	**5.d)** _____

10. Find the value of x.

11. Determine the measure of each <u>interior</u> angle of a regular pentagon.

12. The measure of each <u>interior</u> angle of a regular polygon is 120°. How many sides does the polygon have? What is the name of the polygon?

13. The measure of an <u>exterior</u> angle of a regular n-gon is 72°. How many sides does the polygon have? What is the name of the polygon?

Answer Key:

1) $k = 12, m = 5$ **2)** $c = 75, d = 126$ **3)** $a = 3, b = 10$ **4)** $f = 78, g = 3$ **5)** $x = 30, y = 3$

6) $b = 90, c = 80, d = 100$

7) a) LP = 7.6 **b)** m∠LMN = 80° **c)** m∠LQM = 51° **d)** LM = 13 **e)** QM = 16.4 **f)** LN = 15.2

8) a) m∠ EJH = 60° **b)** m∠ EJF = 120° **c)** m∠ FEG = 45°

d) m∠EGF = 85° **e)** m∠ GFJ = 35° **f)** m∠ EFJ = 15°

9) Approach #1: a) Opp. Sides of ▱ are ≅ **b)** Alt. Int ∠'s **c)** Diagonals of ▱ bisect **d)** SAS

Approach #2: a) Vertical ∠'s **b)** Alt. Int. ∠'s **c)** Diagonals of ▱ bisect **d)** ASA

10) x = 72 **11)** 108° **12)** n = 6, Hexagon **13)** n = 5, Pentagon