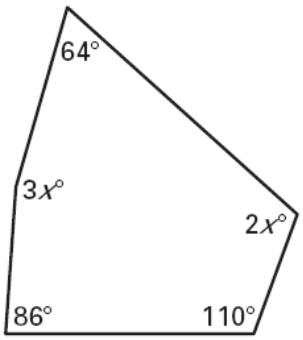
Geometry
Chapter 8 Review Part A

Name:_____

Section 8.1

Find the value of x.

1.



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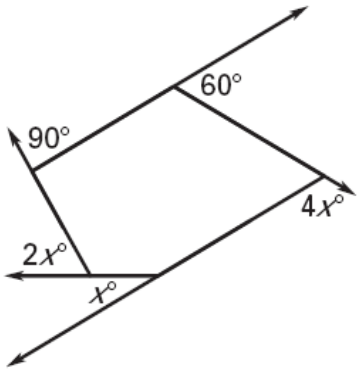


3. Determine the measure of each interior angle of a regular pentagon.

4. The measure of each interior angle of a regular polygon is 120°. How many sides does the polygon have? What is the name of the polygon?

5. Find the measure of each exterior angle of a regular decagon.

6. The measure of an exterior angle of a regular n-gon is 45º. How many sides does the polygon have? What is the name of the polygon?

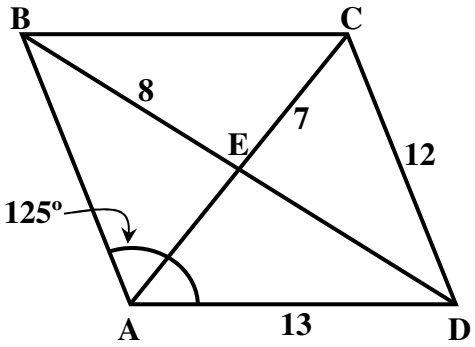
Section 8.2

7. Find the measure in parallelogram ABCD.

a) DE = **d)** BA =

b) BC = **e)** m∠DCB =

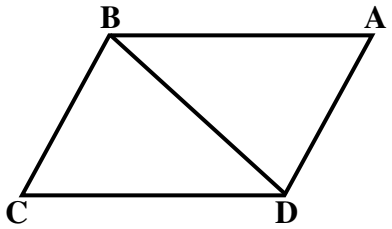
c) m∠ABC = **f)** AC =



8. Given: ▱ABCD

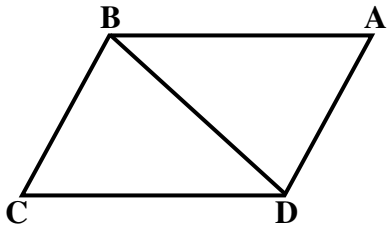
Prove: ΔABD ≅ ΔCDB **Note:** There are many approaches to solving this proof.

Approach #1



Statement	Reason
1. ▱ABCD	**1.** Given
2. $\overline{BA} \cong \overline{CD}$	**2.a)** _____
3. ∠CDB ≅ ∠ABD	**3.b)** _____
4. $\overline{BD} \cong \overline{BD}$	**4.c)** _____
5. ΔABD ≅ ΔCDB	**5.d)** _____

Approach #2

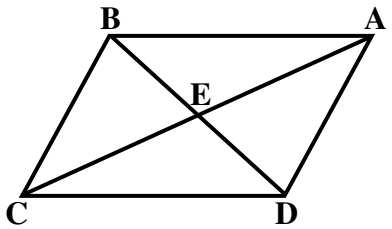


Statement	Reason
1. ▱ABCD	**1.** Given
2. ∠C ≅ ∠A	**2.a)** _____
3. ∠CBD ≅ ∠ADB	**3.b)** _____
4. $\overline{BD} \cong \overline{BD}$	**4.c)** _____
5. ΔABD ≅ ΔCDB	**5.d)** _____

9. Given: ▱ABCD

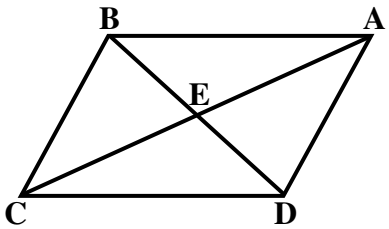
Prove: ΔABE ≅ ΔCDE

Approach #1



Statement	Reason
1. ▱ABCD	**1.** Given
2. $\overline{BA} \cong \overline{CD}$	**2.a)** _____
3. ∠ABD ≅ ∠CDB	**3.b)** _____
4. $\overline{BE} \cong \overline{ED}$	**4.c)** _____
5. ΔABE ≅ ΔCDE	**5.d)** _____

Approach #2

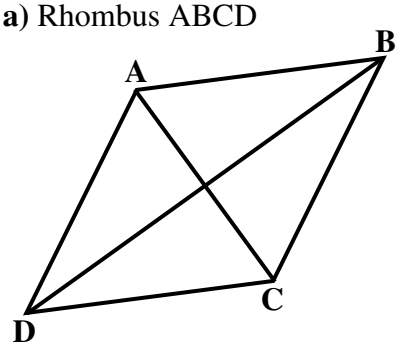


Statement	Reason
1. ▱ABCD	**1.** Given
2. ∠BEA ≅ ∠DEC	**2.a)** _____
3. ∠BAE ≅ ∠DCE	**3.b)** _____
4. $\overline{AE} \cong \overline{EC}$	**4.c)** _____
5. ΔABE ≅ ΔCDE	**5.d)** _____

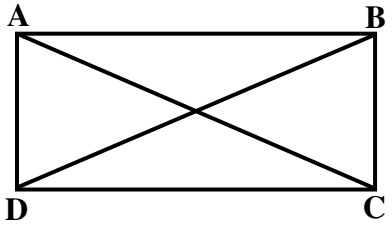
Section 8.3

10. Label the indicated parallelogram with its own specific properties.

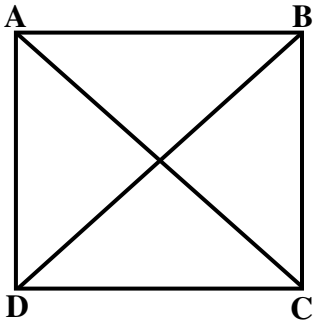
a) Rhombus ABCD



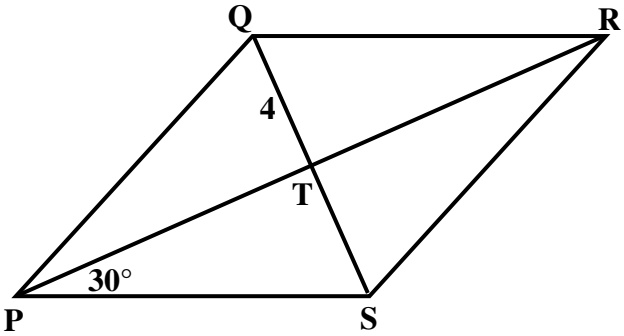
b) Rectangle ABCD



c) Square ABCD



11. Find the indicated measures of rhombus PQRS.



a) m∠QPR =

b) m∠QTP =

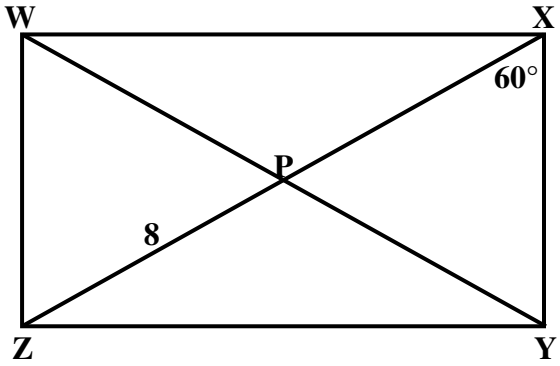
c) m∠TQP =

d) TP =

e) QP =

f) QR =

12. Find the indicated measures of rectangle WXYZ.



a) PX =

b) WP =

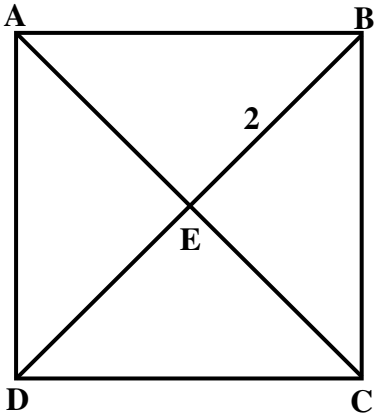
c) WY =

d) m∠WXP =

e) m∠XWP =

f) m∠ZYW =

13. Find the indicated measures of square ABCD.



a) m∠CEB =

b) EC =

c) m∠EBC =

d) m∠ECB =

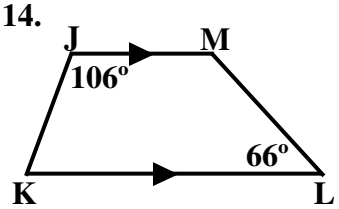
e) AC =

f) BC =

Section 8.4

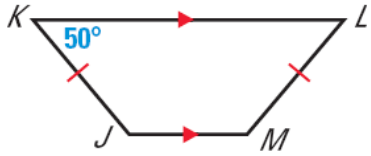
Find m∠K and m∠M.

14.



Find m∠J, m∠L, m∠M.

15.



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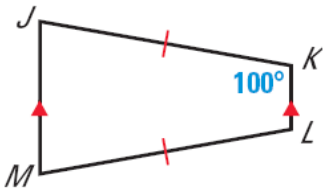
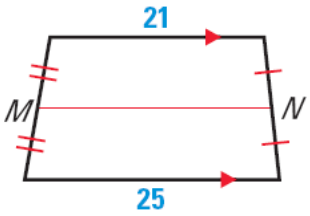


Find the length of the midsegment of the trapezoid.

17.



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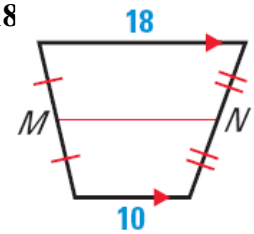

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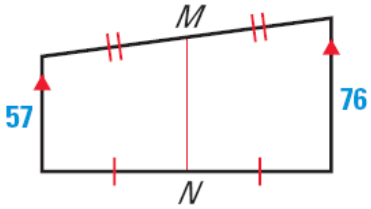
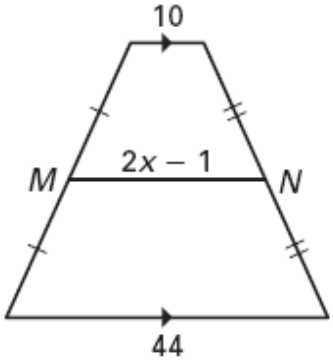


Determine the value of x for the isosceles trapezoids.

20.



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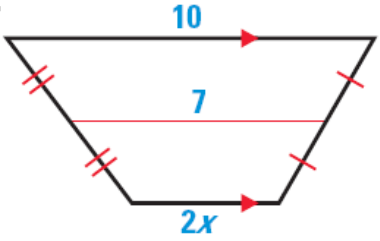

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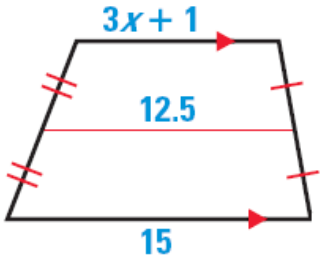
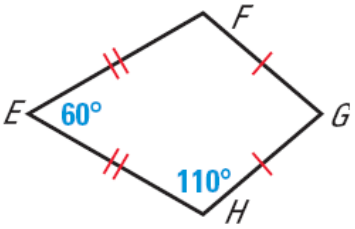


Find the missing angle measures for the kites.

23.



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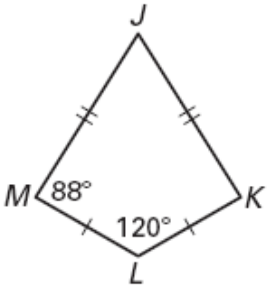

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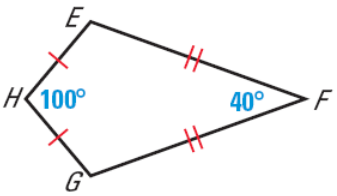
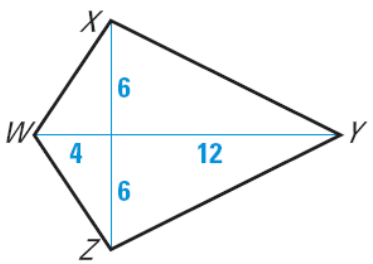


Find the missing side lengths for the kites.

26.



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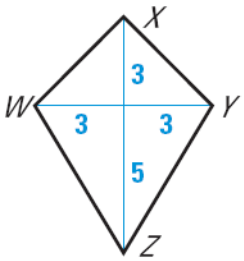

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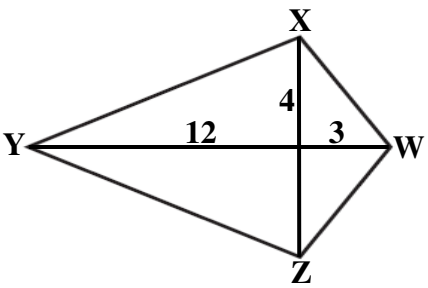
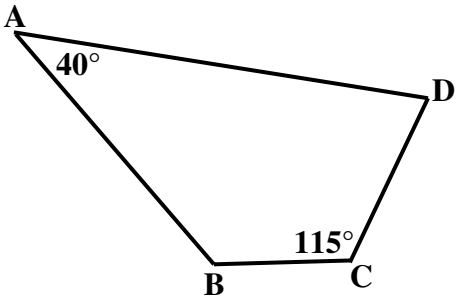
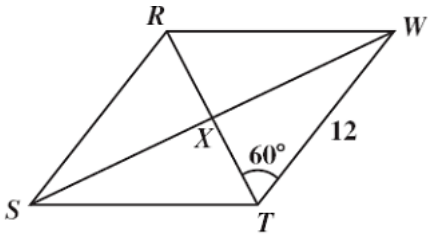


29. The sum of the interior angles of a polygon is twice the sum of its exterior angles. What type of polygon is it?

30. For the type of quadrilateral shown below, what is m∠B + m∠D?



31. If RSTW is a rhombus, what is the area of ΔWXT?



Answer Key:

1) x = 56 **2)** x = 30 **3)** 108° **4)** 6 sides; hexagon **5)** 36° **6)** 8 sides; octagon

7) a) DE = 8 **b)** BC = 13 **c)** m∠ABC = 55° **d)** BA = 12 **e)** m∠DCB = 125° **f)** AC = 14

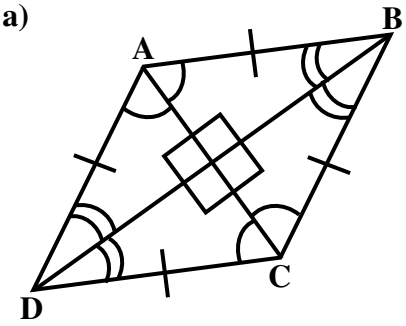
8) Approach #1: a) Opp. Sides of ▱ are ≅ **b)** Alt. Int ∠'s **c)** Reflexive Prop. **d)** SAS

Approach #2: a) Opp. ∠'s of ▱ are ≅ **b)** Alt. Int. ∠'s **c)** Reflexive Prop. **d)** AAS

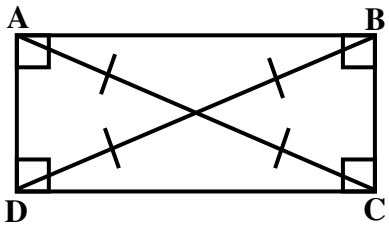
9) Approach #1: a) Opp. Sides of ▱ are ≅ **b)** Alt. Int ∠'s **c)** Diagonals of ▱ bisect **d)** SAS

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

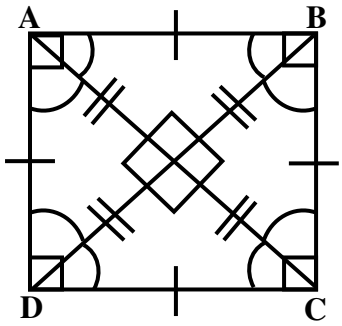
10) a)



b)



c)



11) a) m∠QPR = 30° **b)** m∠QTP = 90° **c)** m∠TQP = 60° **d)** TP = $4\sqrt{3}$ **e)** QP = 8 **f)** QR = 8

12) a) PX = 8 **b)** WP = 8 **c)** WY = 16 **d)** m∠WXP = 30° **e)** m∠XWP = 30° **f)** m∠ZYW = 30°

13) a) m∠CEB = 90° **b)** EC = 2 **c)** m∠EBC = 45° **d)** m∠ECB = 45° **e)** AC = 4 **f)** BC = $2\sqrt{2}$

14) m∠K = 74°, m∠M = 114° **15)** m∠J = 130°, m∠L = 50°, m∠M = 130°

16) m∠J = 80°, m∠M = 80°, m∠L = 100° **17)** MN = 23 **18)** MN = 14 **19)** MN = 66.5

20) x = 14 **21)** x = 2 **22)** x = 3 **23)** m∠G = 80°, m∠F = 110° **24)** m∠K = 88°, m∠J = 64°

25) m∠E = 110°, m∠G = 110° **26)** WX = WZ = $2\sqrt{13}$, XY = YZ = $6\sqrt{5}$

27) WX = XY = $3\sqrt{2}$, WZ = YZ = $\sqrt{34}$ **28)** XW = WZ = 5, XY = YZ = $4\sqrt{10}$

29) Hexagon **30)** 205° **31)** $18\sqrt{3}$