Geometry
Chapter 8 Review Part B

Name:_____

Section 8.1

1. The interior angles of a pentagon measure $7x + 4$, $8x + 3$, $4x + 8$, $10x - 4$, and $6x + 4$. What is the measure of the smallest angle?

2. The <u>exterior</u> angles of an octagon measure $34°$, $2x°$, $25°$, $55°$, $62°$, $17°$, $38°$, and $x°$. Find the value of x.

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

4. The measure of each interior angle of a regular polygon is 108°. 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 hexagon.

6. The measure of an exterior angle of a regular n-gon is 3º. How many sides does the polygon have?

Section 8.2

7. Find the indicated measure for parallelogram ABCD.

a) BE =

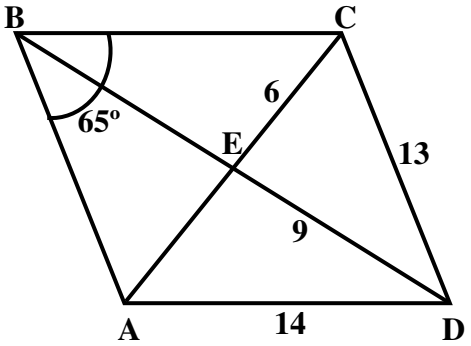
b) AC =

c) m∠BAD =

d) BC =

e) m∠CDA =

f) m∠DCB =



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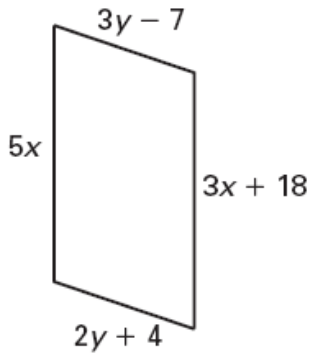

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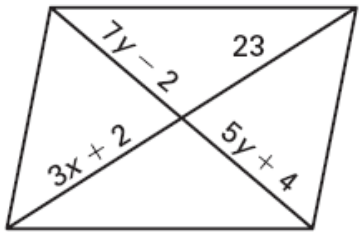

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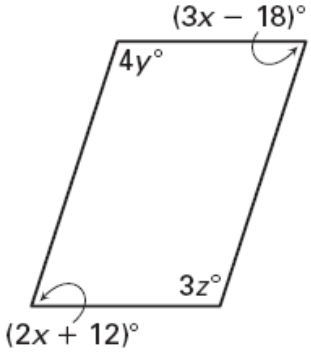
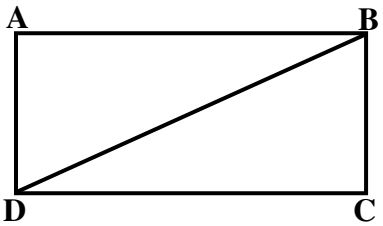


11. Given: ABCD is a rectangle

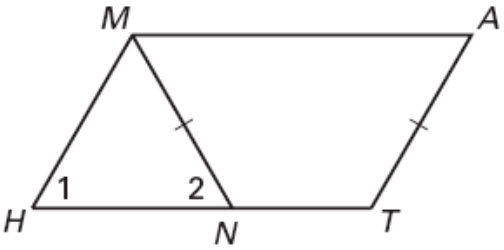
Prove: ΔABD ≅ ΔCDB



Statement	Reason
1. ABCD is a rectangle	**1.** Given
2. $\overline{BA} \cong \overline{CD}$	**2.a)** _____
3. ∠A and ∠C are right angles	**3.b)** _____
4. $\overline{BD} \cong \overline{BD}$	**4.c)** _____
5. ΔABD ≅ ΔCDB	**5.d)** _____

12. Given: ▱MATH, $\overline{MN} \cong \overline{AT}$

Prove: ∠1 ≅ ∠2

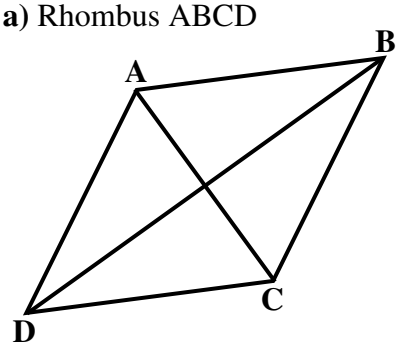


Statement	Reason
1. ▱MATH	**1.** Given
2. $\overline{MN} \cong \overline{AT}$	**2.** Given
3. $\overline{AT} \cong \overline{MH}$	**3.a)** _____
4. $\overline{MN} \cong \overline{MH}$	**4.b)** _____
5. ∠1 ≅ ∠2	**5.c)** _____

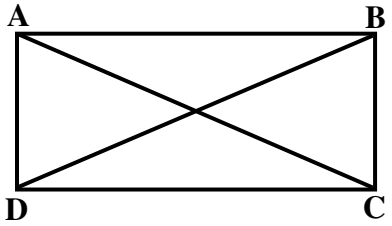
Section 8.3

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

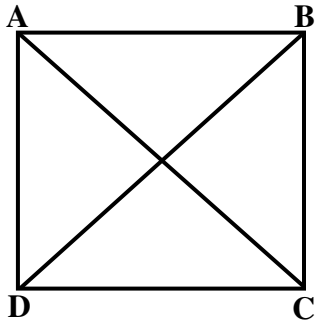
a) Rhombus ABCD



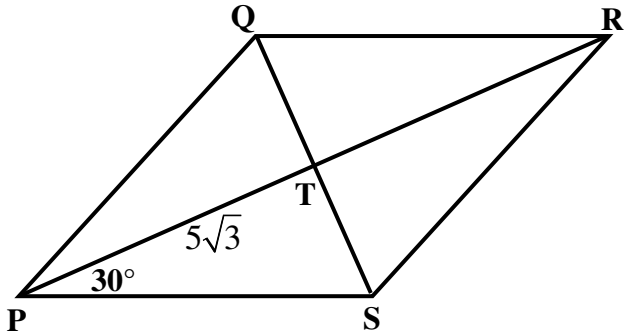
b) Rectangle ABCD



c) Square ABCD



14. Find the indicated measures of rhombus PQRS.



a) m∠QPR =

b) m∠QTP =

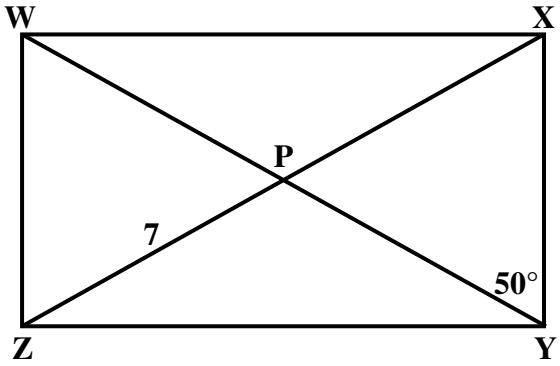
c) m∠TQP =

d) QT =

e) QP =

f) QR =

15. Find the indicated measures of rectangle WXYZ.



a) WP =

b) PX =

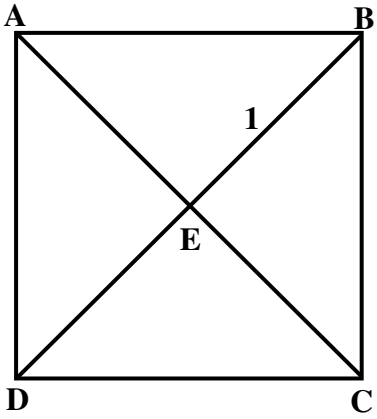
c) ZX =

d) m∠ZYW =

e) m∠YWX =

f) m∠WXZ =

16. Find the indicated measures of square ABCD.



a) m∠CEB =

b) EC =

c) m∠EBC =

d) m∠ECB =

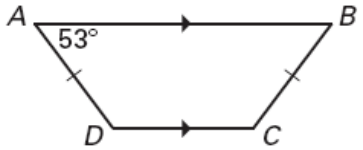
e) AC =

f) BC =

Section 8.4

Find the missing angle measures.

17.



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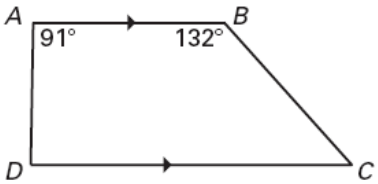

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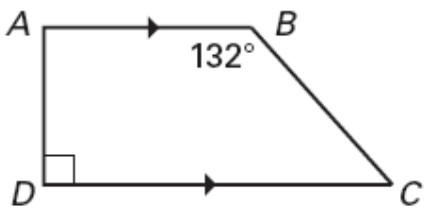
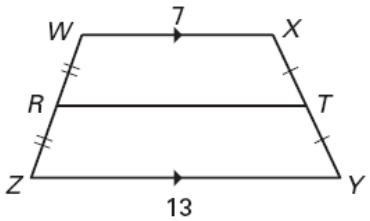


Find the length of the midsegment of the trapezoid.

20.



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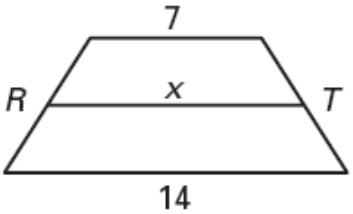

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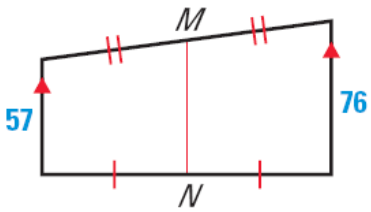
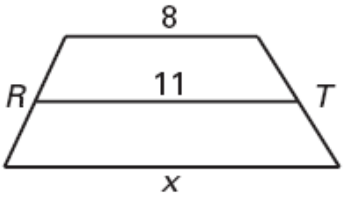


Determine the value of x for the isosceles trapezoids.

23.



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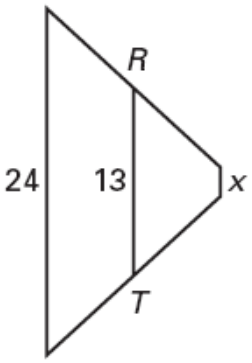

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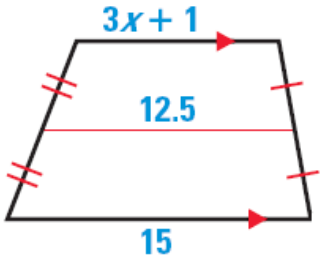

Find the missing angle measures for the kites.

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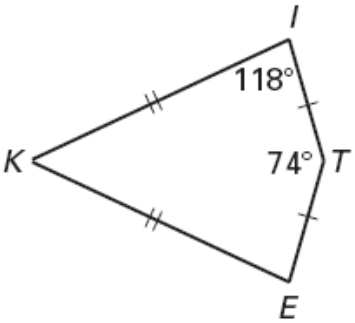

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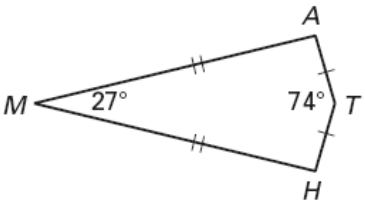

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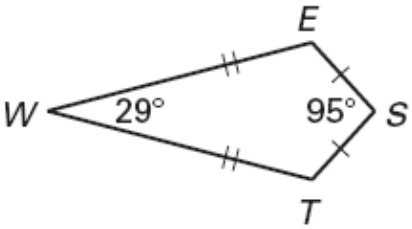
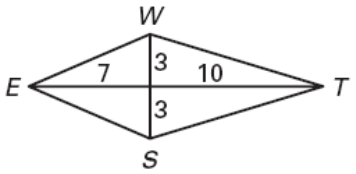


Find the missing side lengths for the kites.

29.



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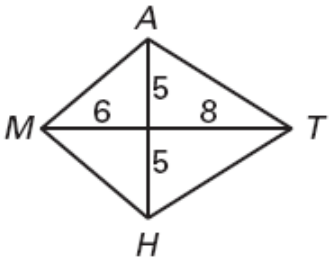

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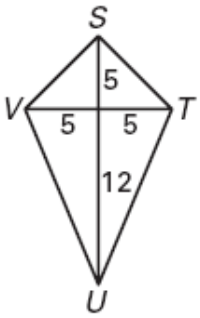
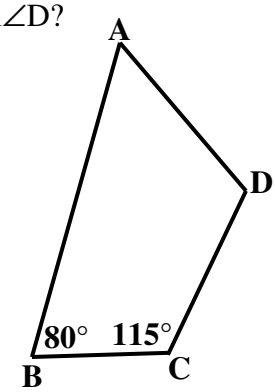
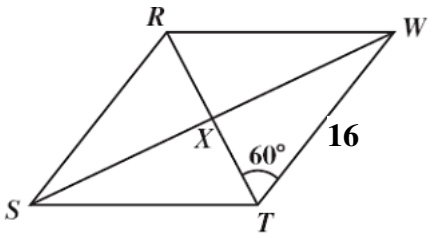


32. The sum of the interior angles of a polygon is three times the sum of its exterior angles. What type of polygon is it?

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



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



Answer Key:

1) 68° **2)** x = 43 **3)** 144° **4)** 5 sides; pentagon **5)** 60° **6)** 120 sides

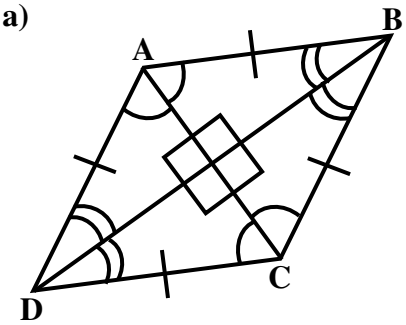
7) a) BE = 9 **b)** AC = 12 **c)** m∠BAD = 115° **d)** BC = 14 **e)** m∠CDA = 65° **f)** m∠DCB = 115°

8) x = 9, y = 11 **9)** x = 7, y = 3 **10)** x = 30, y = 27, z = 36

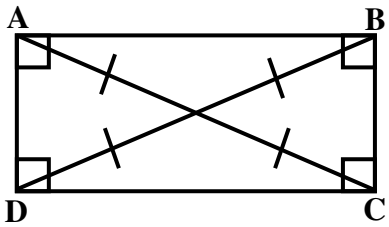
11) a) Opp. sides of ▱ are ≅ **b)** Def. of rectangle **c)** Reflexive Prop. **d)** HL

12) a) Opp. sides of ▱ are ≅ **b)** Transitive Property **c)** Opp. ∠'s of ≅ sides are ≅

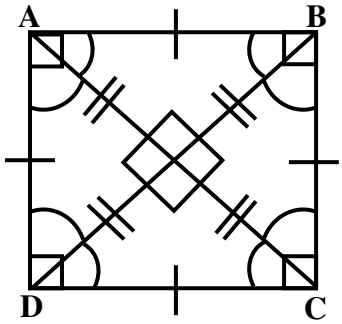
13) a)



b)



c)



14) a) m∠QPR = 30° **b)** m∠QTP = 90° **c)** m∠TQP = 60° **d)** QT = 5 **e)** QP = 10 **f)** QR = 10

15) a) WP = 7 **b)** PX = 7 **c)** ZX = 14 **d)** m∠ZYW = 40° **e)** m∠YWX = 40° **f)** m∠WXZ = 40°

16) a) m∠CEB = 90° **b)** EC = 1 **c)** m∠EBC = 45° **d)** m∠ECB = 45° **e)** AC = 2 **f)** BC = $\sqrt{2}$

17) m∠B = 53°, m∠D = 127°, m∠C = 127° **18)** m∠D = 89°, m∠C = 48°

19) m∠A = 90°, m∠C = 48° **20)** 10 **21)** 10.5 **22)** 66.5

23) x = 14 **24)** x = 2 **25)** x = 3 **26)** m∠E = 118°, m∠K = 50° **27)** m∠A = 129.5°, m∠H = 129.5°

28) m∠E = 118°, m∠T = 118° **29)** EW = ES = $\sqrt{58}$, WT = ST = $\sqrt{109}$

30) MA = MH = $\sqrt{61}$, AT = HT = $\sqrt{89}$ **31)** VS = ST = $5\sqrt{2}$, VU = UT = 13

32) Octagon **33)** 165° **34)** $32\sqrt{3}$