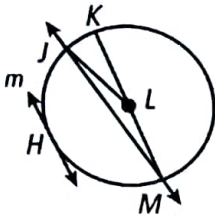


Name _____

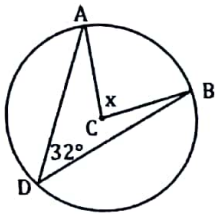
Analytic Geometry SBM 1 Review Guide

- 1) List all of the lines/segments that intersect the circle



GEOMETRY – Spring Benchmark #1 – By Topic

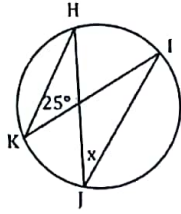
1. Triangle Congruency, Similarity, Properties = 4
2. Parallelograms = 3
3. Right Triangles = 4
4. Circles = 8
5. Factoring = 6



2. $x = \underline{\hspace{2cm}}$

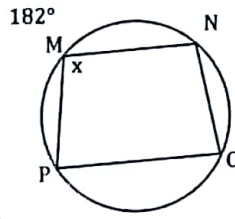
$m\widehat{AB} = \underline{\hspace{2cm}}$

$m\widehat{ADB} = \underline{\hspace{2cm}}$

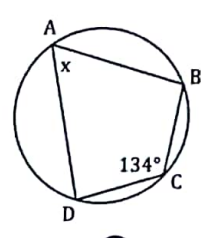


3. $m\angle J = \underline{\hspace{2cm}}$

$m\widehat{HI} = \underline{\hspace{2cm}}$



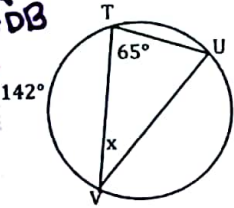
4.



$x = \underline{\hspace{2cm}}$

$m\widehat{DAB} = \underline{\hspace{2cm}}$

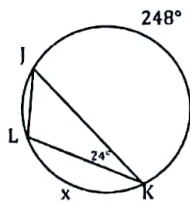
$m\widehat{BD} = \underline{\hspace{2cm}}$



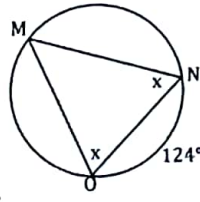
6.

$x = \underline{\hspace{2cm}}$

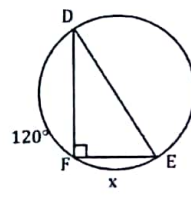
$m\widehat{TV} = \underline{\hspace{2cm}}$



7.



8.

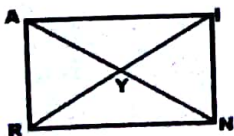


9.

10. List the properties you know about the diagonals of each parallelogram

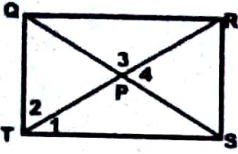
- a. parallelogram
- b. rectangle
- c. rhombus
- d. square

In rectangle RAIN below, $YR = 3x$ and $NY = 18$, find 'x'.



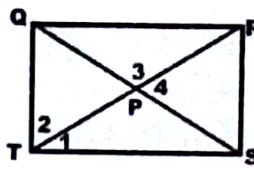
11.

$m\angle 1 = 55^\circ$, find the measures of $\angle 2$, $\angle 3$ and $\angle 4$.



12. T

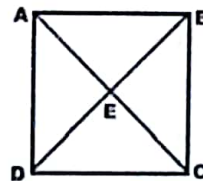
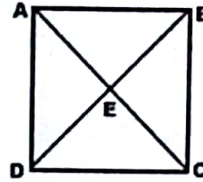
$m\angle 3 = 110^\circ$, find the measures of $\angle 1$, $\angle 2$, and



13. T

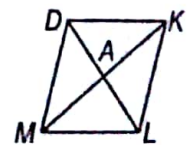
Use square ABCD and the given information to find each value.

_____ 32.	If $m\angle AEB = (3x)^\circ$, find 'x'.
_____ 33.	If $m\angle BAC = (9x)^\circ$, find 'x'.
_____ 34.	If $AB = 2x + 4$ and $CD = 3x - 5$, find BC. Find BC and BD.
_____ a.	The perimeter of the square is 32 cm. Find the length of diagonal DB.
_____ b.	$DE = 10$, find AD.
_____ c.	The area of the square is 16. Find EC.



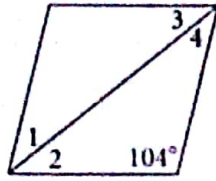
Find the indicated value.

_____ 35.	ACKJ is a rhombus. $AC = 6y + 4$, $CK = 5y + 8$, and $KJ = 3y + 16$. Find the value of 'y'.
_____ a.	Quadrilateral DKLM is a rhombus. If $DK = 8$, find KL .



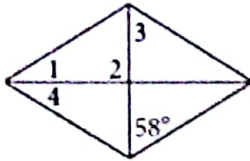
- $m\angle 1 = \underline{\hspace{1cm}}$
- $m\angle 2 = \underline{\hspace{1cm}}$
- $m\angle 3 = \underline{\hspace{1cm}}$
- $m\angle 4 = \underline{\hspace{1cm}}$

Find the measures of the numbered angles in each rhombus.

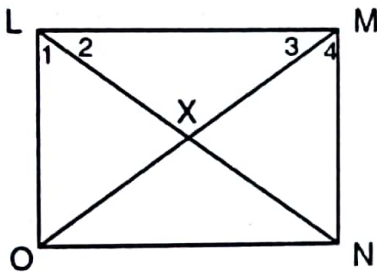


- $m\angle 1 = \underline{\hspace{1cm}}$
- $m\angle 2 = \underline{\hspace{1cm}}$
- $m\angle 3 = \underline{\hspace{1cm}}$
- $m\angle 4 = \underline{\hspace{1cm}}$

Find the measures of the numbered angles in each rhombus.

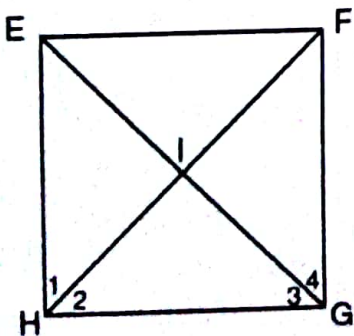
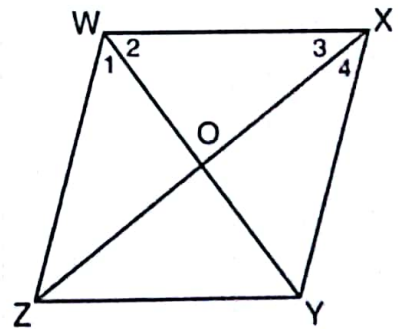


Use the properties to solve for the missing measures in the diagrams.



1. LMNO is a rectangle. If $LM = 16$, $MN = 12$, and $\angle 1 = 60^\circ$, find the following:
- a. $ON = \underline{\hspace{1cm}}$
 - b. $OL = \underline{\hspace{1cm}}$
 - c. $LN = \underline{\hspace{1cm}}$
 - d. $LX = \underline{\hspace{1cm}}$
 - e. $\angle LON = \underline{\hspace{1cm}}$
 - f. $\angle 2 = \underline{\hspace{1cm}}$
 - g. $OX = \underline{\hspace{1cm}}$
 - h. $\angle 3 = \underline{\hspace{1cm}}$
 - i. $\angle 4 = \underline{\hspace{1cm}}$

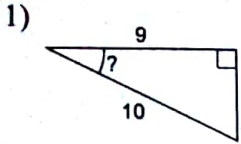
2. WXYZ is a rhombus. If $WX = 4$ and $\angle WXY = 60^\circ$, find the following:
- a. $XY = \underline{\hspace{1cm}}$
 - b. $\angle ZWX = \underline{\hspace{1cm}}$
 - c. $\angle 1 = \underline{\hspace{1cm}}$
 - d. $\angle 2 = \underline{\hspace{1cm}}$
 - e. $\angle 3 = \underline{\hspace{1cm}}$
 - f. $\angle 4 = \underline{\hspace{1cm}}$
 - g. $WO = \underline{\hspace{1cm}}$
 - h. $OX = \underline{\hspace{1cm}}$
 - i. $WY = \underline{\hspace{1cm}}$



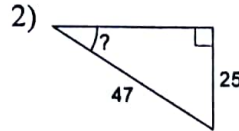
3. EFGH is a square. If $EF = 10$, find the following:
- a. $FG = \underline{\hspace{1cm}}$
 - b. $\angle EFG = \underline{\hspace{1cm}}$
 - c. $EG = \underline{\hspace{1cm}}$
 - d. $EI = \underline{\hspace{1cm}}$
 - e. $IF = \underline{\hspace{1cm}}$
 - f. $\angle EIF = \underline{\hspace{1cm}}$
 - g. $\angle 1 = \underline{\hspace{1cm}}$
 - h. $\angle 3 = \underline{\hspace{1cm}}$
 - i. $HF = \underline{\hspace{1cm}}$

SBM#1 Review problems

Find the measure of the indicated angle to the nearest degree.



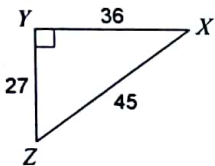
- A) 42° B) 48°
C) 64° D) 26°



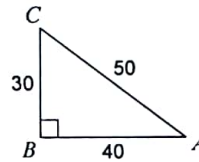
- A) 32° B) 35°
C) 62° D) 28°

Find the value of each trigonometric ratio.

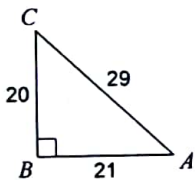
3) $\sin Z$



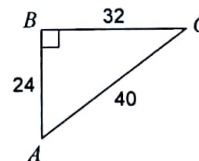
4) $\cos A$



5) $\sin C$



6) $\tan A$



Find the length of each arc.

7) $r = 11$ m, $\theta = 300^\circ$

- A) $\frac{400\pi}{3}$ m B) 36300π m
C) $\frac{55\pi}{3}$ m D) $\frac{25\pi}{4}$ m

8) $r = 10$ mi, $\theta = 270^\circ$

- A) 75π mi B) 15π mi
C) $\frac{\pi}{3}$ mi D) 2π mi

Find the area of each sector.

9) $r = 11$ m, $\theta = 135^\circ$

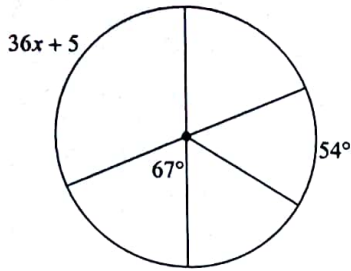
- A) 16335π m² B) 2970π m²
C) 14π m² D) $\frac{363\pi}{8}$ m²

10) $r = 15$ ft, $\theta = 300^\circ$

- A) 25π ft² B) $\frac{5\pi}{6}$ ft²
C) $\frac{15\pi}{2}$ ft² D) $\frac{375\pi}{2}$ ft²

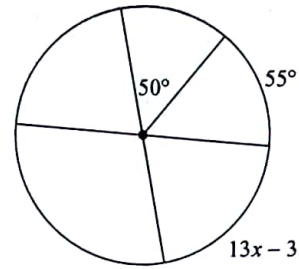
Solve for x . Assume that lines which appear to be diameters are actual diameters.

11)



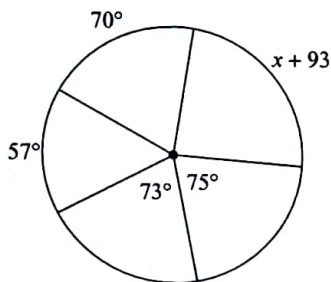
- A) -4 B) 3
C) 7 D) 0

12)



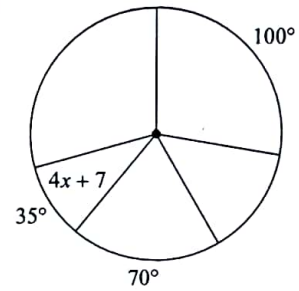
- A) 6 B) 7
C) 8 D) 5

13)



- A) 3 B) -1
C) 11 D) -8

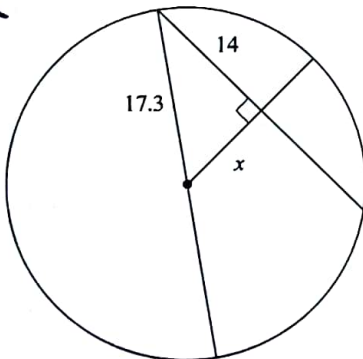
14)



- A) 3 B) -11
C) 11 D) 7

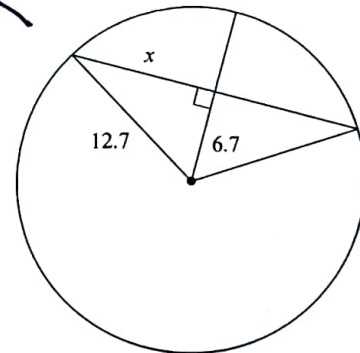
Find the length of the segment indicated. Round your answer to the nearest tenth if necessary.

~~15)~~



- A) 12 B) 9.9
C) 6.3 D) 10.2

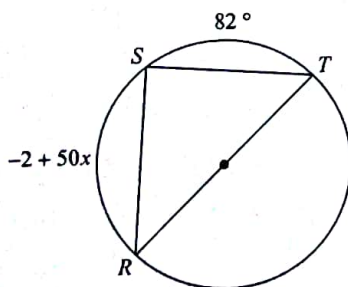
~~16)~~



- A) 15.5 B) 10.8
C) 6.5 D) 14.9

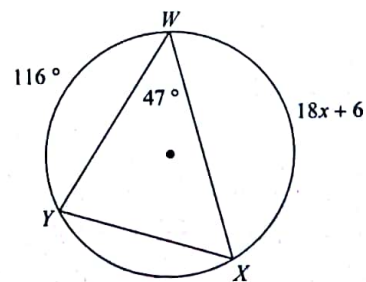
Solve for x .

17)



- A) 13 B) 10
C) 2 D) 7

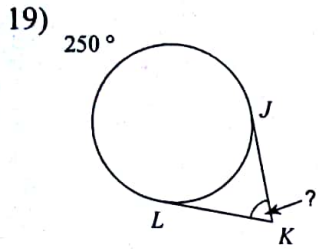
18)



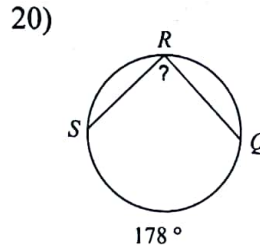
- A) 14 B) 8
C) 11 D) 12

-2-

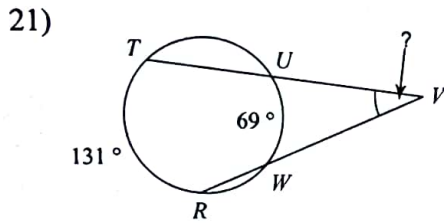
Find the measure of the arc or angle indicated. Assume that lines which appear tangent are tangent.



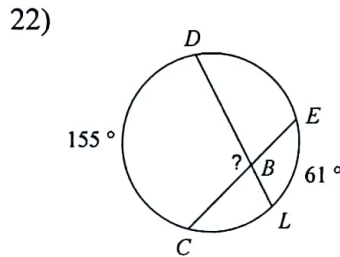
- A) 60° B) 43°
 C) 70° D) 55°



- A) 70° B) 89°
 C) 78° D) 54°

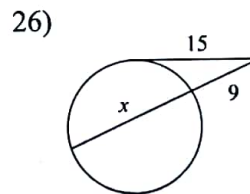
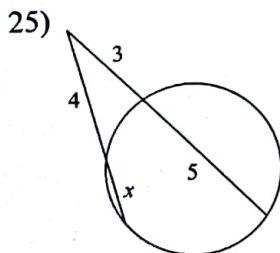
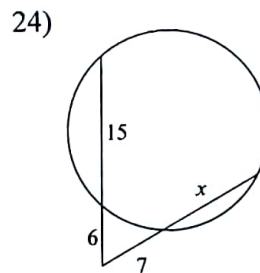
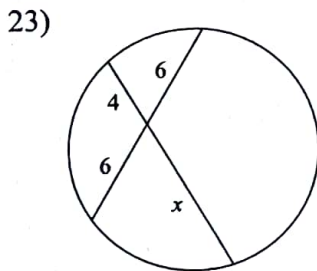


- A) 39° B) 34°
 C) 31° D) 41°

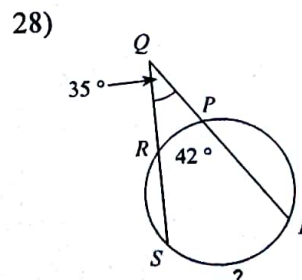
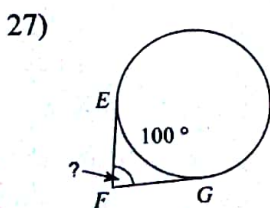


- A) 108° B) 117°
 C) 122° D) 158°

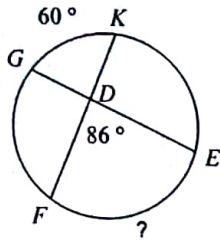
Solve for x . Assume that lines which appear tangent are tangent.



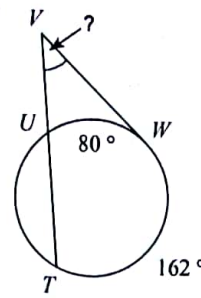
Find the measure of the arc or angle indicated. Assume that lines which appear tangent are tangent.



29)

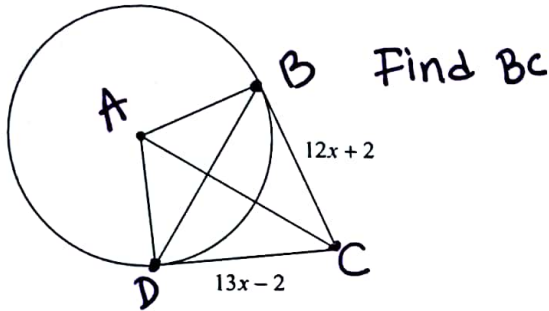


30)

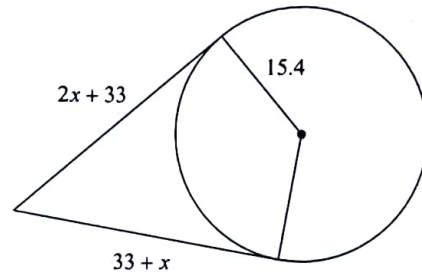


Solve for x . Assume that lines which appear to be tangent are tangent.

31)

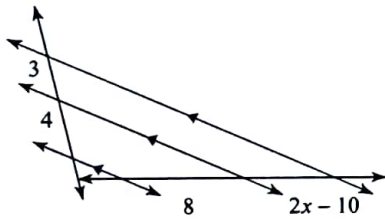


32)

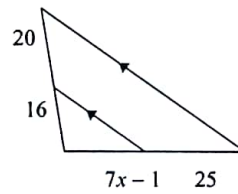


Solve for x .

33)



34)

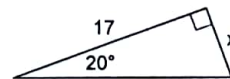


Find the missing side. Round to the nearest tenth.

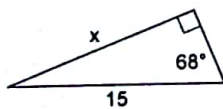
35)



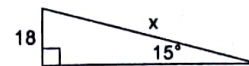
36)



37)

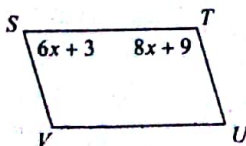


38)

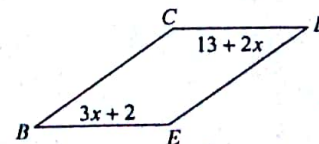


Find the measurement indicated in each parallelogram.

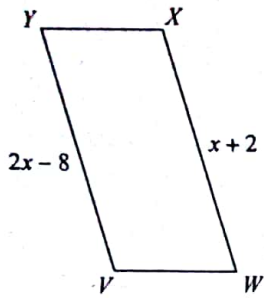
39) Find $m\angle V$



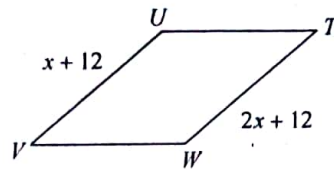
40) Find $m\angle B$



41) Find XW

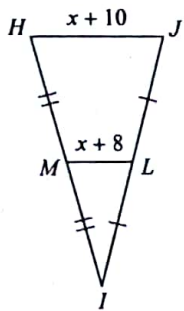


42) Find VU

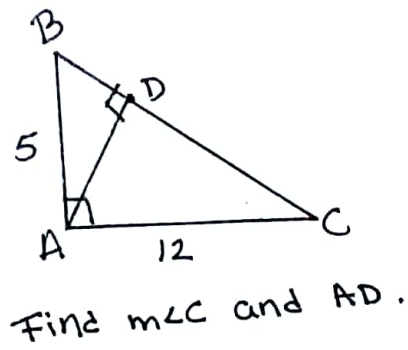


Solve for x .

43)



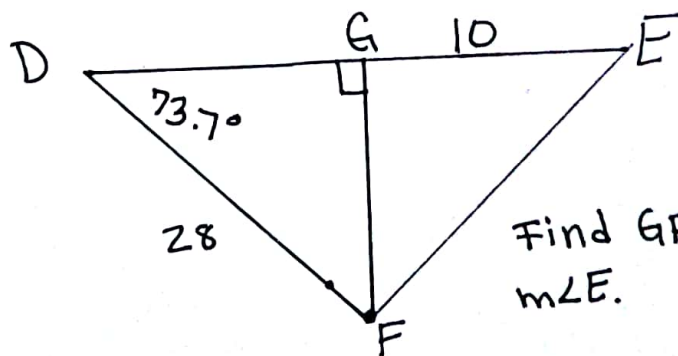
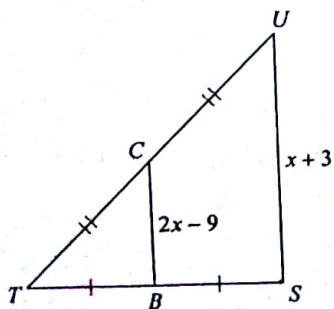
$HJ = \underline{\hspace{2cm}}$
 $ML = \underline{\hspace{2cm}}$



Find $m\angle C$ and AD .

Find the missing length indicated.

44) Find SU

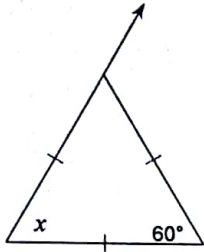


Find GF and $m\angle E$.

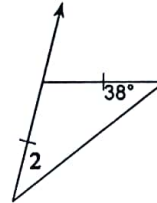
SBM#1 Study Guide

Find the value of x .

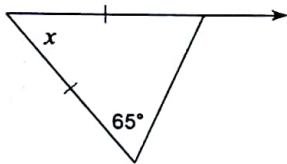
1)



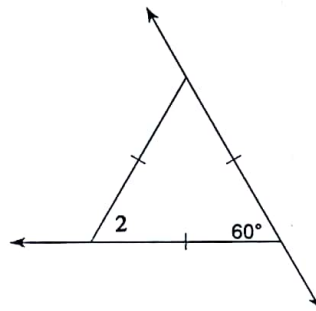
2) $m\angle 2 = x + 48$



3)

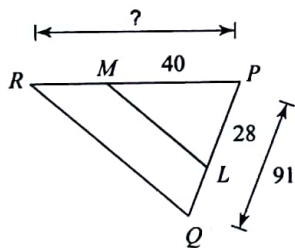


4) $m\angle 2 = x + 68$

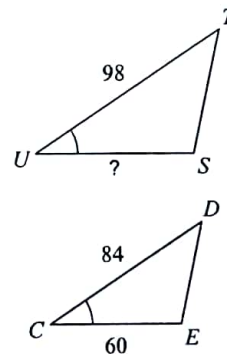


Find the missing length. The triangles in each pair are similar.

5)



6)



Factor the common factor out of each expression.

7) $35c^4a + 40c^3b^2 + 50c^4$

Factor each completely.

8) $5x^2 + 15x$

9) $3b^3 + 15b^2 - 6b$

10) $12p^2 + 4p - 8$

11) $2n^4 + 7n^3 - 49n^2$

12) $b^2 + 16b + 60$

13) $x^2 - 19x + 90$

14) $2m^2 - 18$

15) $25n^6 - 4$

Name the type of Quadratic Expression (PST or DOTS) and Factor each completely.

16) $25m^2 - 1$

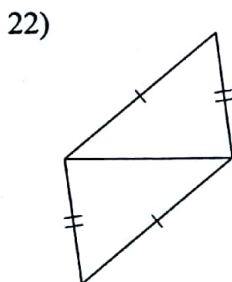
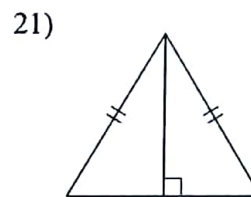
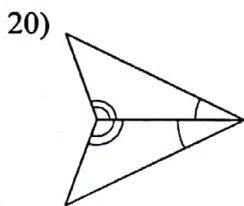
17) $9n^2 - 24n + 16$

Simplify each expression.

18) $(6 + n^3 - 3n) - (8 - 4n + 8n^4)$

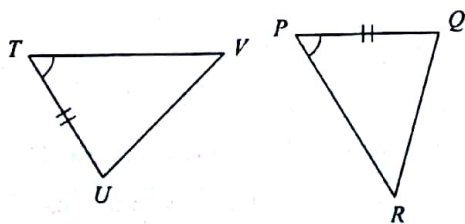
19) $(6n^3 + 5n^2 + 7) + (2n^2 - 3 + n^3)$

State if the two triangles are congruent. If they are, state how you know.



State what additional information is required in order to know that the triangles are congruent for the reason given.

23) ASA



24) SAS

