

شكراً لتحميلك هذا الملف من موقع المناهج الإماراتية



تجميع أسئلة وفق الهيكل الوزاري ريفيل

موقع المناهج ← المناهج الإماراتية ← الصف العاشر العام ← رياضيات ← الفصل الأول ← الملف

تاريخ نشر الملف على موقع المناهج: 03:59:03 2023-12-04 | اسم المدرس: Alrashedi Laila

التواصل الاجتماعي بحسب الصف العاشر العام



روابط مواد الصف العاشر العام على تلغرام

[الرياضيات](#)

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المزيد من الملفات بحسب الصف العاشر العام والمادة رياضيات في الفصل الأول

[حل الأسئلة المقالية الكتابية وفق الهيكل الوزاري ريفيل](#)

1

[مراجعة أسئلة الاختيار من متعدد وفق الهيكل الوزاري](#)

2

[مراجعة الأسئلة المقالية وفق الهيكل الوزاري](#)

3

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4

[نموذج الهيكل الوزاري الجديد ريفيل](#)

5

Mathematics

EOT Coverage Term 1

Grade 10 Gen (Reveal)

2023-2024

Number of MCQ عدد الأسئلة الموضوعية	15
Marks of MCQ درجة الأسئلة الموضوعية	4
Number of FRQ عدد الأسئلة المقالية	5
Marks per FRQ الدرجات للأسئلة المقالية	(7-9)
Type of All Questions نوع كافة الأسئلة	MCQ/ الأسئلة الموضوعية FRQ/ الأسئلة المقالية
Maximum Overall Grade الدرجة القصوى الممكنة	100
Exam Duration - مدة الامتحان	150 minutes
Mode of Implementation - طريقة التطبيق	Paper-Based
Calculator الآلة الحاسبة	Allowed مسموحة

School Principal:

Mariam Alyahyei



Done by:

Laila Alrashedi

MCQ الأسئلة الاختيارية

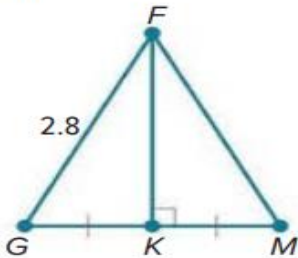
Unit 1

1	Prove theorems and solve problems about perpendicular bisectors of line segments	1 to 6	7
		11 to 14	8

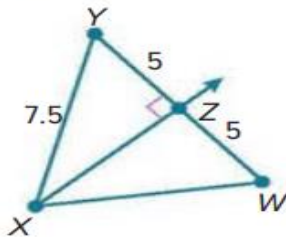
L1.1

Find each measure.

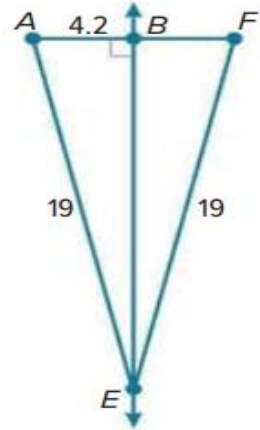
1. FM



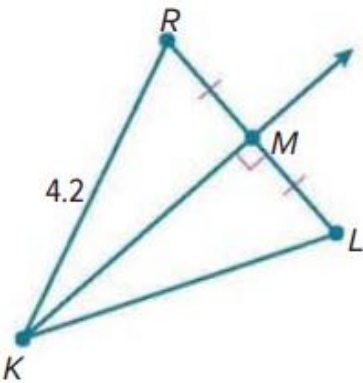
2. XW



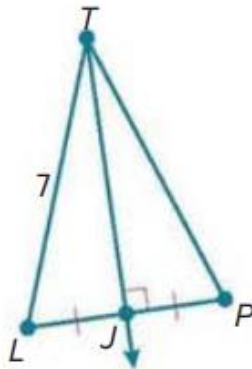
3. BF



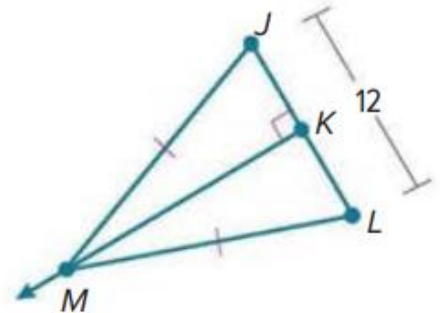
4. KL



5. TP



6. KL

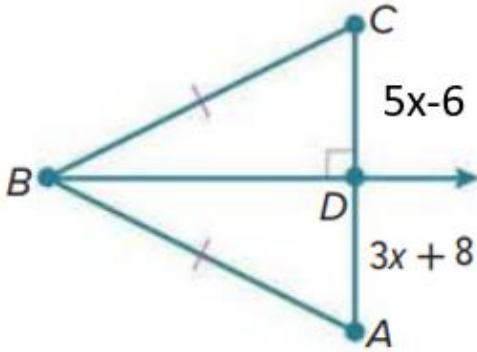


1	Prove theorems and solve problems about perpendicular bisectors of line segments	1 to 6	7
		11 to 14	8

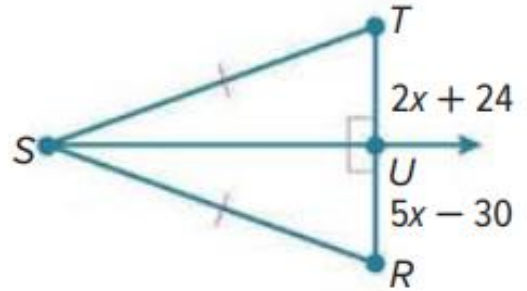
Find the value of x

L1.1

11.

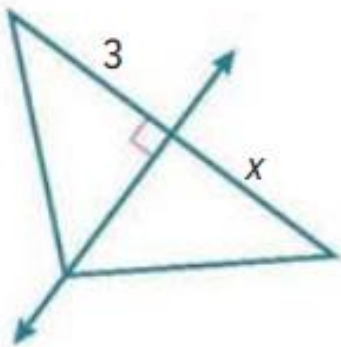


12.

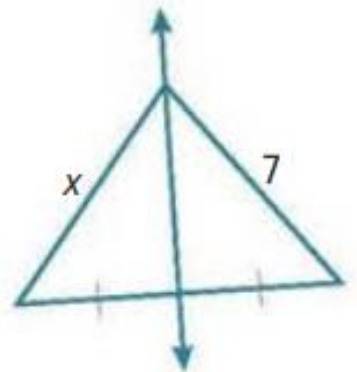


Determine whether there is enough information given in each diagram to find the value of x. If there is, find the value of x. If there is not, explain what needs to be given.

14.



13.



2	Solve problems by applying the Centroid Theorem	1 to 10	23
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L1.3

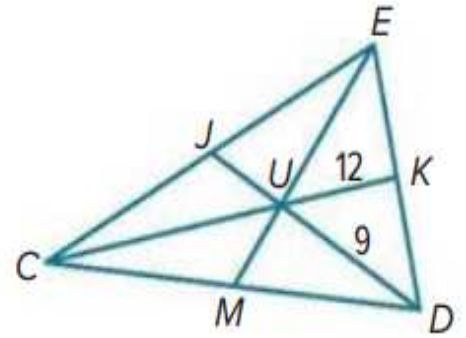
In $\triangle CDE$, U is the centroid, $UK = 12$, $EM = 21$, and $UD = 9$. Find each measure.

1. CU

2. MU

3. EU

4. JD



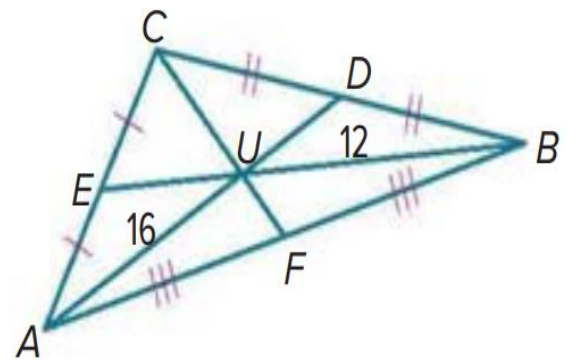
In $\triangle ABC$, $AU = 16$, $BU = 12$, and $CF = 18$. Find each measure.

5. CU

6. AD

7. UF

8. BE





Find the coordinates of the centroid of each triangle with the given vertices:

L1.3

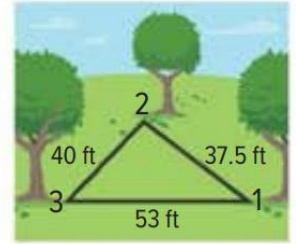
9. $X(-3, 15)$ $Y(1, 5)$, $Z(5, 10)$

10. $S(2, 5)$, $T(6, 5)$, $R(10, 0)$

3	Prove and apply theorems about inequalities in one triangle	12 to 16	32
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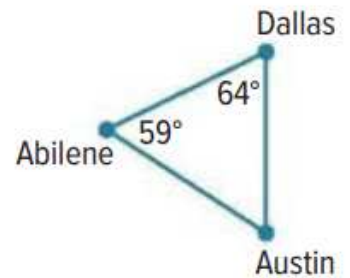
L1.4

12. SPORTS The figure shows the position of three trees on one part of a disc golf course. At which tree position is the angle between the trees the greatest?



13. NEIGHBORHOOD Cain and Remy live on the same straight road. From their balconies, they can see a flagpole in the distance. The angle that each person's line of sight to the flagpole makes with the road is the same. How do their distances from the flagpole compare?

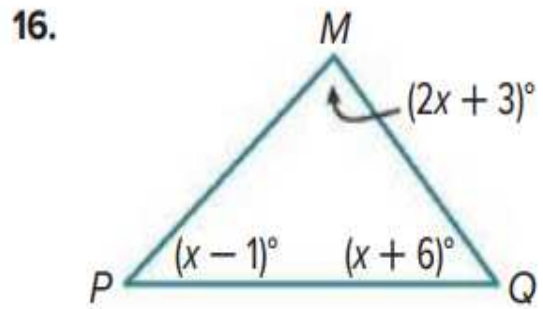
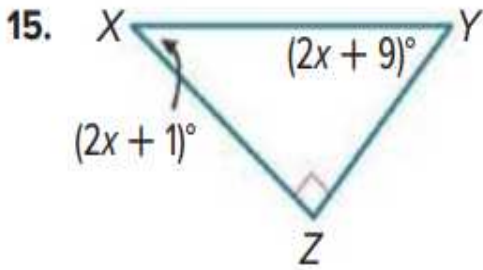
14. MAPS Sata is going to Texas to visit a friend. As she looked at a map to see where she might want to go, she noticed that Austin, Dallas, and Abilene form a triangle. She wanted to determine how the distances between the cities were related, so she used a protractor to measure two angles.



- a. Based on the information in the figure, which of the two cities are nearest to each other?
- b. Based on the information in the figure, which of the two cities are farthest apart from each other?
- c. If you were going to use the information from Sata's sketch to plan a road trip between these cities, what is an assumption that you would have to make?

L1.4

REASONING List the angles and sides of each triangle in order from smallest to largest.

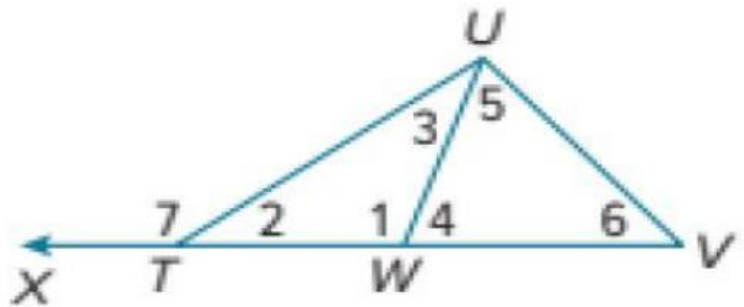


4	Solve problems by applying the Exterior Angle Inequality Theorem	1 to 5	31
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List the angles that satisfy the stated condition.

L1.4

1. measures are greater than $m\angle 3$



2. measures are less than $m\angle 1$

3. measures are greater than $m\angle 1$

4. measures are less than $m\angle 7$

5. measures are greater than $m\angle 2$



5

Prove and apply the Hinge Theorem

1 to 4

49

L1.7

1. **FLIGHT** Two planes take off from the same airstrip. The first plane flies west for 150 miles and then flies 30° south of west for 220 miles. The second plane flies east for 220 miles and then flies x° south of east for 150 miles. If $x < 30$, which plane is farther from the airstrip after the second leg? Justify your answer.

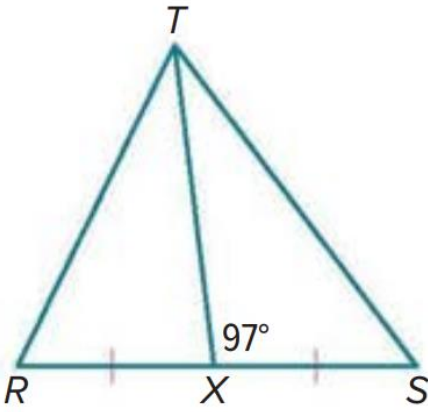
2. **HIKING** Gen and Ari start hiking from the same point. Gen hikes 5 miles due east and turns to hike 4.5 miles 30° south of east. Ari hikes 5 miles due west and turns to hike 4.5 miles 15° north of west.
- Draw a model to represent the situation.
 - Who is closer to the starting point? Explain your reasoning.

PROOF Write a two-column proof.

L1.7

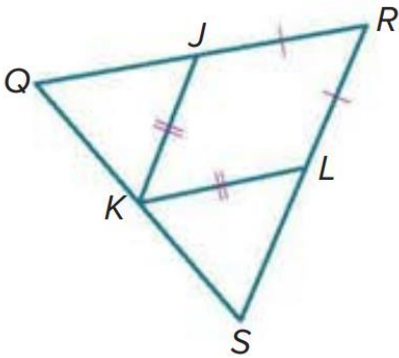
3. Given: $RX = XS$; $m\angle SXT = 97$

Prove: $ST > RT$



4. Given: $\overline{LK} \cong \overline{JK}$, $\overline{RL} \cong \overline{RJ}$, K is the midpoint of \overline{QS} , and $m\angle SKL > m\angle QKJ$.

Prove: $RS > QR$





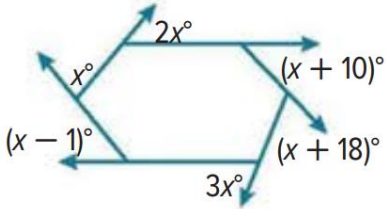
Unit 2

6	Prove and use the Polygon Exterior Angles Sum Theorem	15 to 24	64, 65
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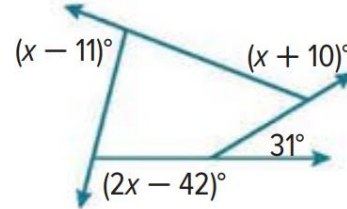
Find the value of x in each diagram.

L2.1

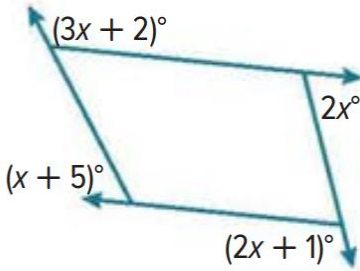
15.



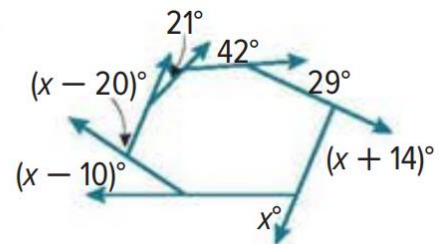
16.



17.



18.



Find the measure of each exterior angle of each regular polygon.

19. pentagon

20. 15-gon

21. hexagon

22. octagon

23. nonagon

24. 12-gon

7	Prove and use theorems about the properties of parallelograms	1 to 8	71
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L 2.2

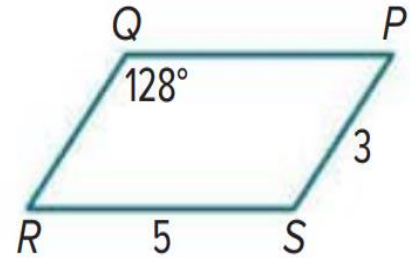
Use $\square PQRS$ to find each measure.

1. $m\angle R$

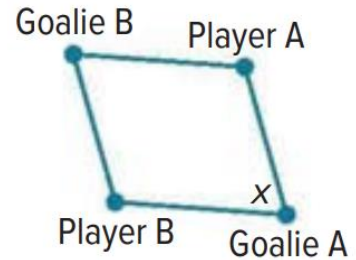
2. QR

3. QP

4. $m\angle S$



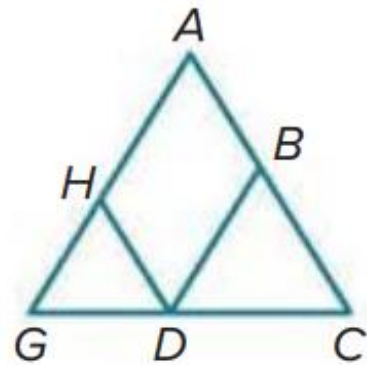
5. **SOCCER** Four soccer players are practicing a drill. Goalie A is facing Player B to receive the ball. Goalie A then turns x° to face Player A to pass her the ball. If Goalie B is facing Player A to receive the ball, then through what angle measure should Goalie B turn to pass the ball to Player B?



For 6-7, write a two – column proof.

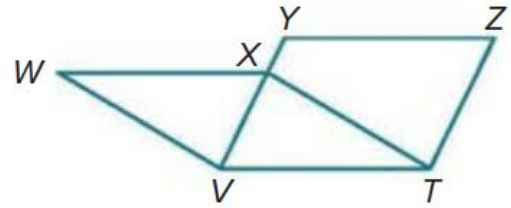
6. Given: $\square BDHA$, $\overline{CA} \cong \overline{CG}$

Prove: $\angle BDH \cong \angle G$



7. Given: $WXTV$ and $YZTV$ are parallelograms.

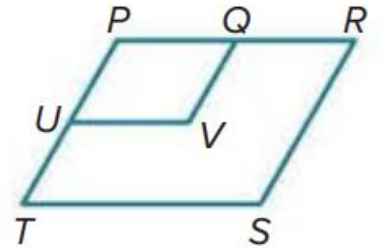
Prove: $\overline{WX} \cong \overline{YZ}$



8. Write a paragraph proof.

Given: $\square PRST$ and $\square PQVU$

Prove: $\angle V \cong \angle S$



8	Recognize and apply the properties of rectangles	1 to 14	87
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L 2.4

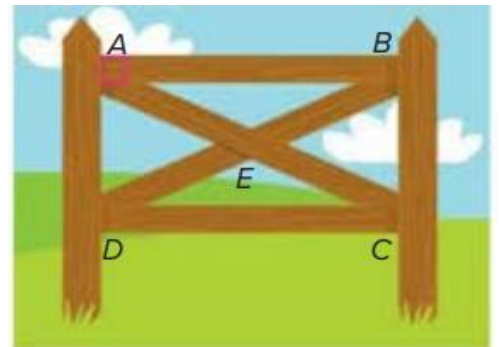
FENCING X-braces are also used to provide support in rectangular fencing. If $AB = 6$ feet, $AD = 2$ feet, and $m\angle DAE = 65^\circ$, find each measure. Round to the nearest tenth, if necessary.

1. BC

2. DB

3. $m\angle CEB$

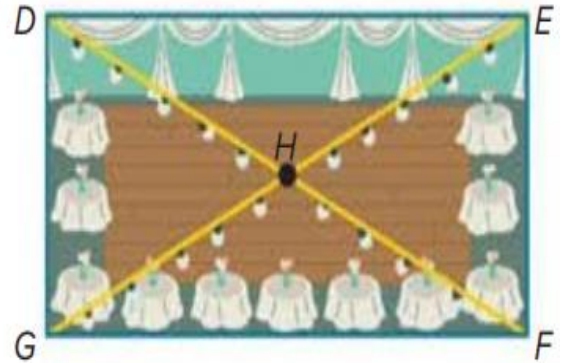
4. $m\angle EDC$



PROM The prom committee is decorating the venue for prom and wants to hang lights above the diagonals of the rectangular room. If $DH = 44.5$ feet, $EF = 39$ feet, and $m\angle GHF = 128^\circ$, find each measure.

5. DG

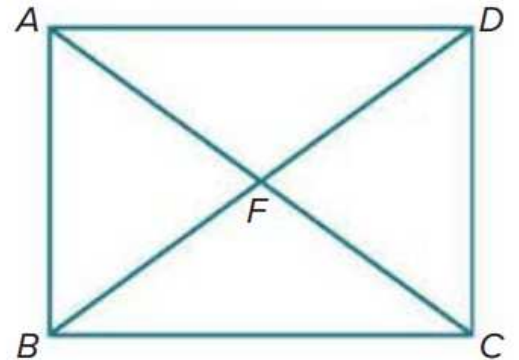
6. GE



7. $m\angle EHF$

8. $m\angle HEF$

9. Quadrilateral $ABCD$ is a rectangle. If $m\angle ADB = (4x + 8)^\circ$ and $m\angle DBA = (6x + 12)^\circ$, find the value of x .



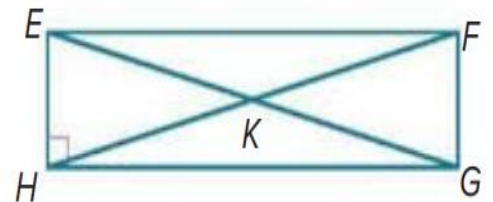
Quadrilateral $EFGH$ is a rectangle. Use the given information to find each measure.

10. If $m\angle FEG = 57^\circ$, find $m\angle GEH$.

11. If $m\angle HGE = 13^\circ$, find $m\angle FGE$.

12. If $FK = 32$ feet, find EG .

13. Find $m\angle HEF + m\angle EFG$.



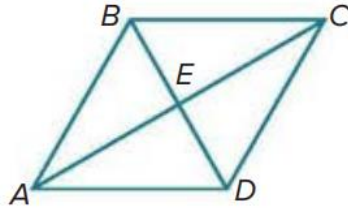
14. If $EF = 4x - 6$ and $HG = x + 3$, find EF .

9	Recognize and apply the properties of rhombi and squares	1 to 10	95
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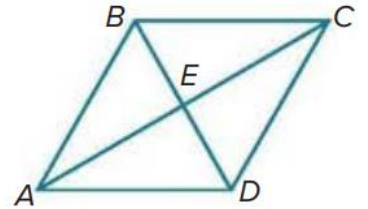
Quadrilateral $ABCD$ is a rhombus. Find each value or measure.

L 2.5

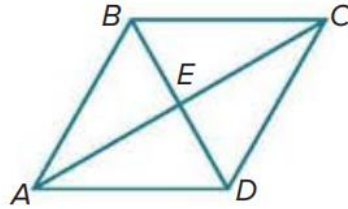
1. If $m\angle ABD = 60^\circ$, find $m\angle BDC$.



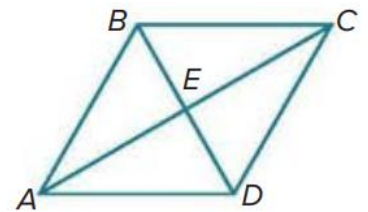
2. If $AE = 8$, find AC .



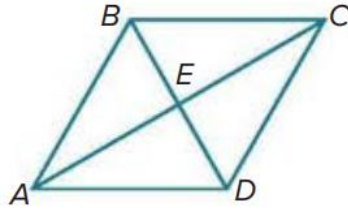
3. If $AB = 26$ and $BD = 20$, find AE .



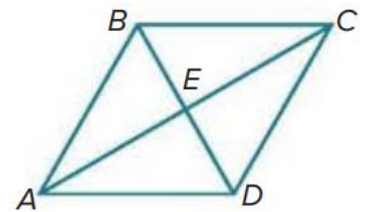
4. Find $m\angle CEB$.



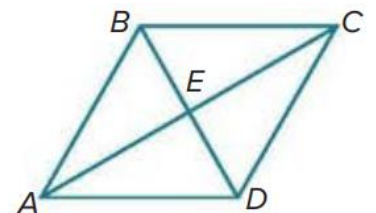
5. If $m\angle CBD = 58^\circ$, find $m\angle ACB$.



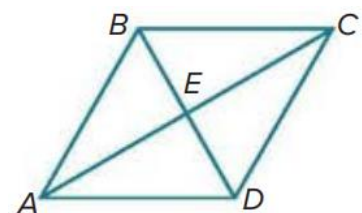
6. If $AE = 3x - 1$ and $AC = 16$, find x .



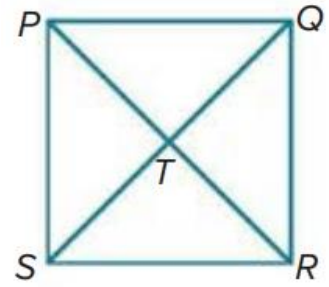
7. If $m\angle CDB = 6y^\circ$ and $m\angle ACB = (2y + 10)^\circ$, find the value of y .



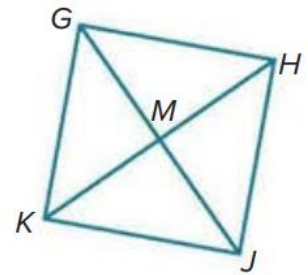
8. If $AD = 2x + 4$ and $CD = 4x - 4$, find the value of x .



9. $PQRS$ is a square. If $PR = 42$, find TR .



10. $GHJK$ is a square. If $KM = 26.5$, find KH .



10	Apply the properties of trapezoids and use coordinate geometry to find lengths and endpoints of midsegments	1 to 12	105, 106
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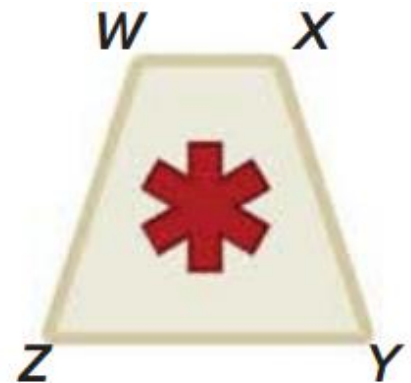
L 2.6

1. **SIGNS** The medical sign shown is a trapezoidal prism. The front face of the sign is an isosceles trapezoid. $WX = 2x - 2$, $YZ = 2x + 6$, $WZ = 4x + 5$, and $XY = 5x - 3$.

a. Prove $x = 8$.

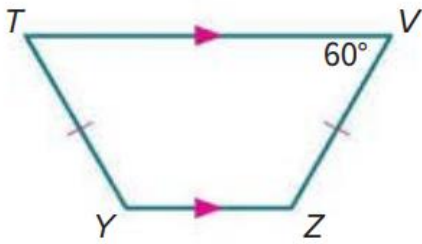
b. Find $m\angle Z$ if $m\angle W = 106^\circ$.

c. Find the perimeter of the front face of the sign in inches.

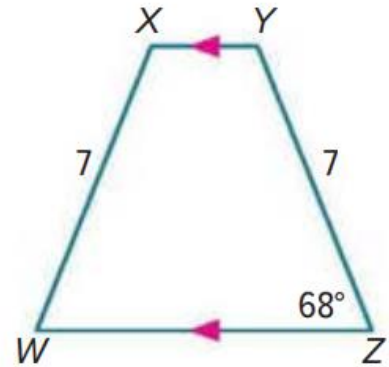


Find each measure.

2. $m\angle T$



3. $m\angle Y$



4. $RSTU$ is a quadrilateral with vertices $R(-3, -3)$, $S(5, 1)$, $T(10, -2)$, and $U(-4, -9)$.

a. Verify that $RSTU$ is a trapezoid.

b. Is $RSTU$ an isosceles trapezoid? Explain.

5. $ABCD$ is a quadrilateral with vertices $A(-1, 5)$, $B(3, 2)$, $C(-8, 2)$, and $D(-4, 5)$.

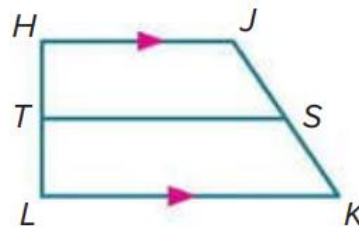
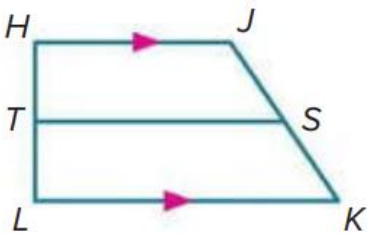
a. Verify that $ABCD$ is a trapezoid.

b. Is $ABCD$ an isosceles trapezoid? Explain.

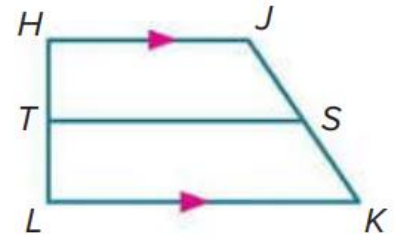
\overline{TS} is the midsegment of trapezoid $HJKL$.

6. If $HJ = 14$ and $LK = 42$, find TS .

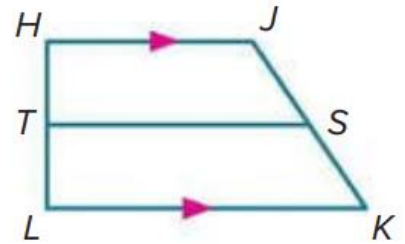
7. If $LK = 19$ and $TS = 15$, find HJ .



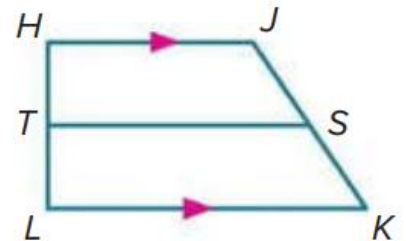
8. If $HJ = 7$ and $TS = 10$, find LK .



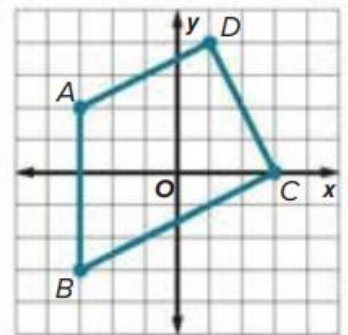
9. If $KL = 17$ and $JH = 9$, find ST .



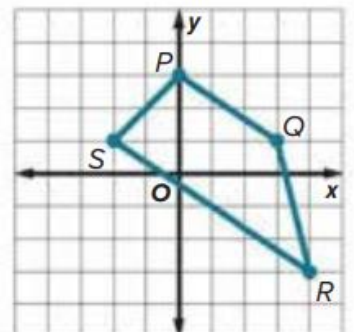
10. If $TS = 24$ and $LK = 27.4$, find HJ .



11. In trapezoid $ABCD$, $\overline{AD} \parallel \overline{BC}$. Find the endpoints of the midsegment.



12. In trapezoid $PQRS$, $\overline{PQ} \parallel \overline{SR}$. Find the endpoints of the midsegment.



Unit 3

11

Determine whether two figures are similar

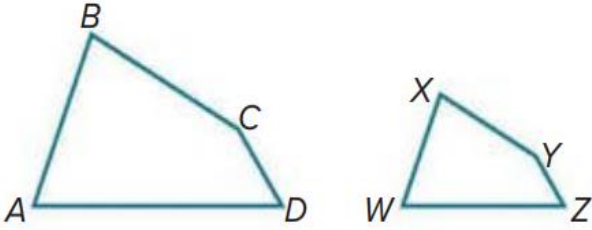
1 to 10

127, 128

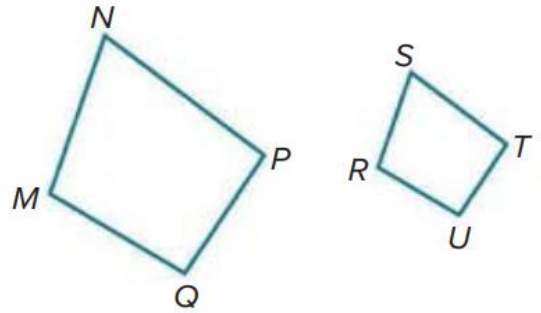
List all pairs of congruent angles, and write a proportion that relates the corresponding sides for each pair of similar polygons.

L 3.2

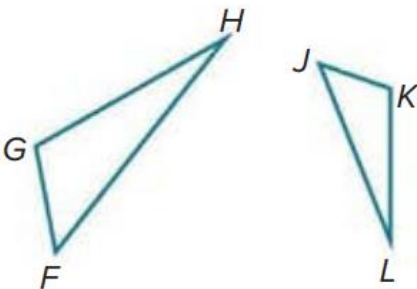
1. $ABCD \sim WXYZ$



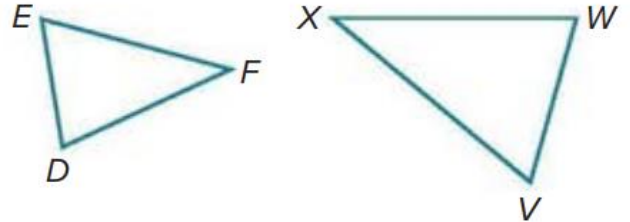
2. $MNPQ \sim RSTU$



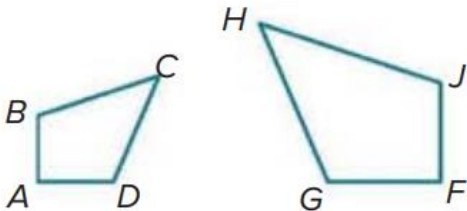
3. $\triangle FGH \sim \triangle JKL$



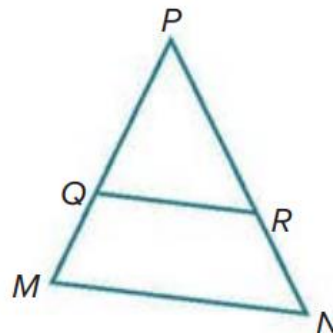
4. $\triangle DEF \sim \triangle VWX$



5. $ABCD \sim FGHI$

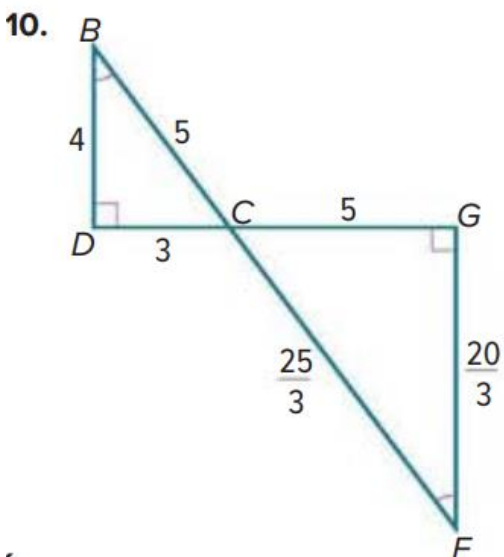
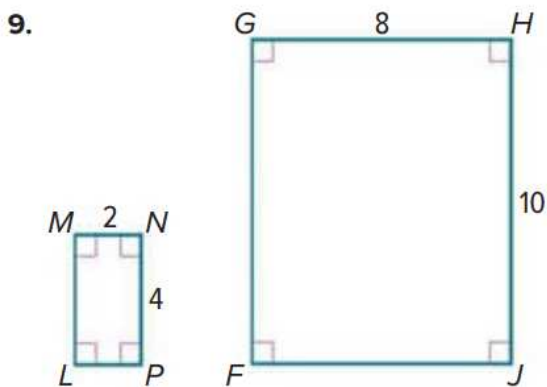
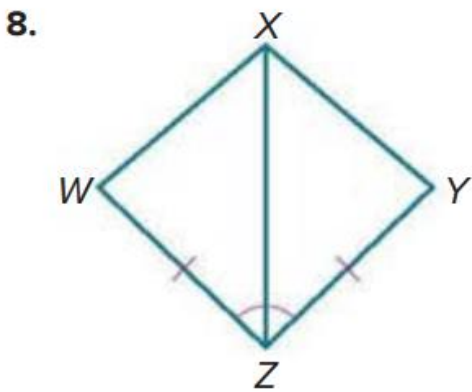
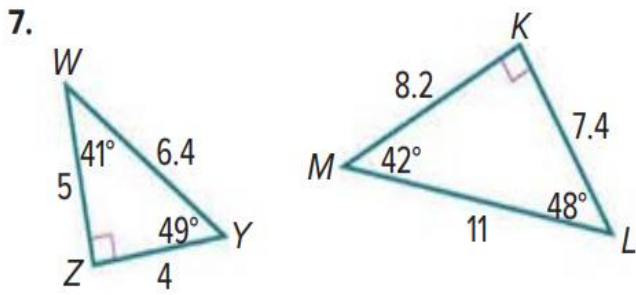


6. $\triangle MNP \sim \triangle QRP$



Determine whether each pair of figures is similar. If so, find the scale factor.

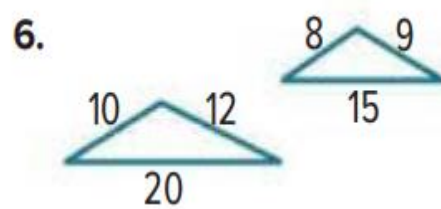
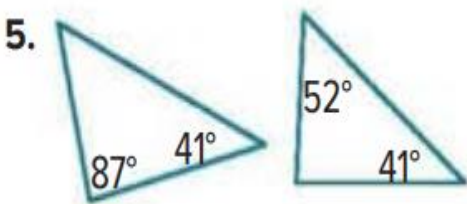
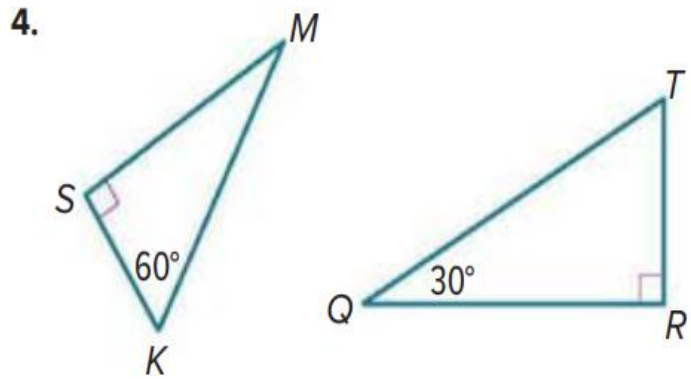
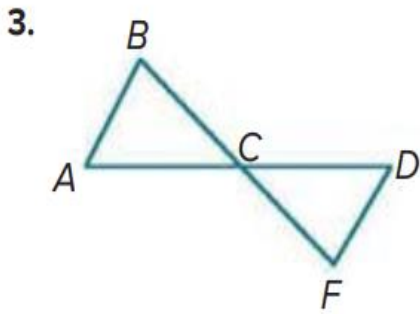
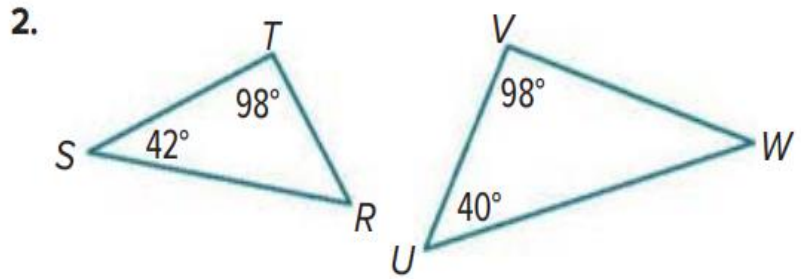
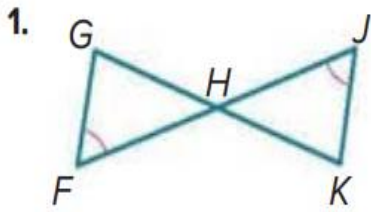
Explain your reasoning.



12	Use the AA Similarity criterion to solve problems and prove triangles similar	1 to 12	133, 134
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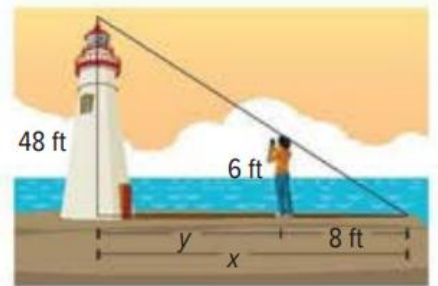
Determine whether each pair of triangles is similar. Explain your reasoning.

L 3.3



7. CELL TOWERS A cell phone tower casts a shadow that is 100 feet long. At the same time, Lia stands near the tower and casts a shadow that is 3 feet 4 inches long. If Lia is 4 feet 6 inches tall, how tall is the cell phone tower?

8. LIGHTHOUSE Maya wants to know how far she is standing from a lighthouse. The end of Maya's shadow coincides with the end of the lighthouse's shadow.

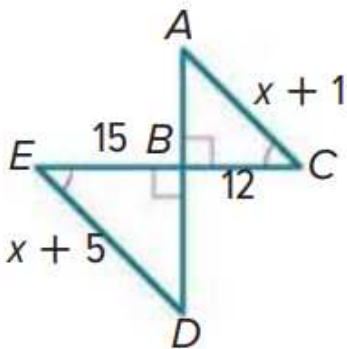


a. What is the distance from the lighthouse to the end of the lighthouse's shadow, x ?

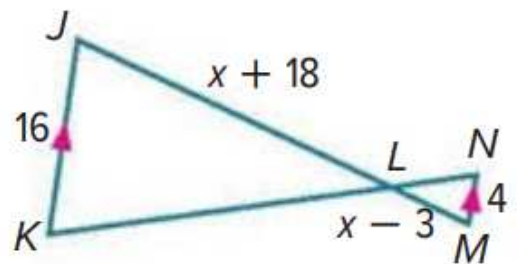
b. What is the distance from Maya to the lighthouse, y ?

Identify the similar triangles. Then find each measure.

9. AC

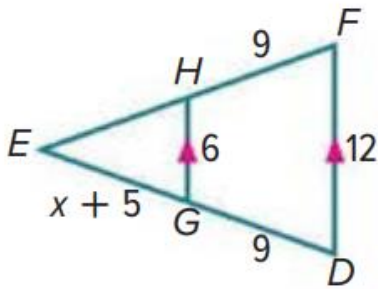


10. JL

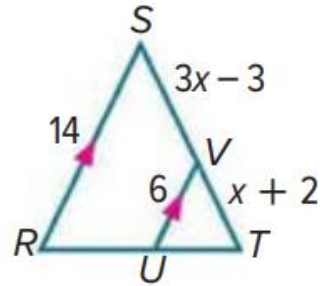


Identify the similar triangles. Then find each measure.

11. EH



12. VT

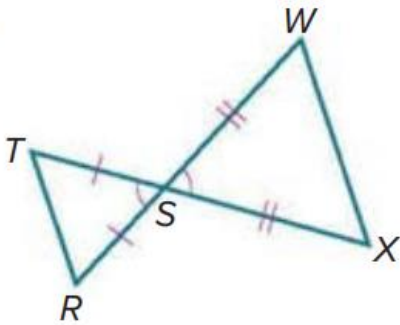


13	Use the SSS and SAS Similarity criteria to solve problems and prove triangles similar	1 to 11	139
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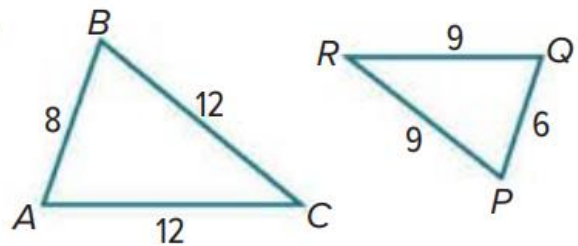
L 3.4

Determine whether each pair of triangles is similar. Explain your reasoning.

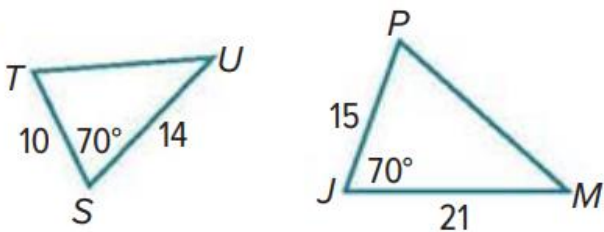
1.



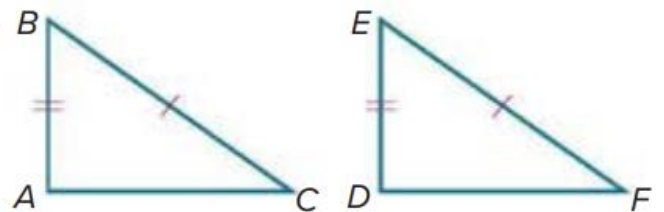
2.



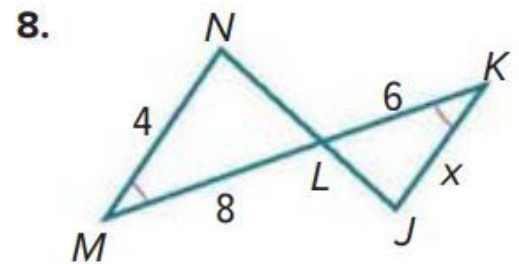
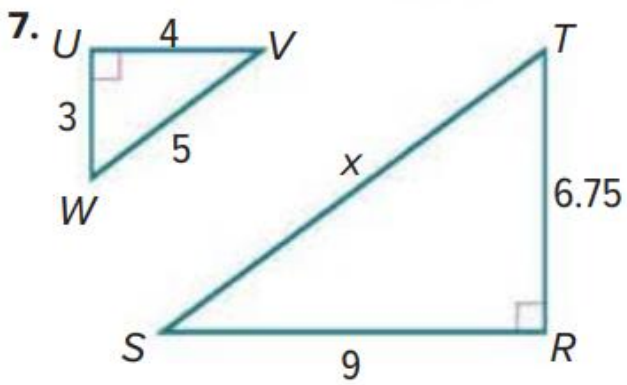
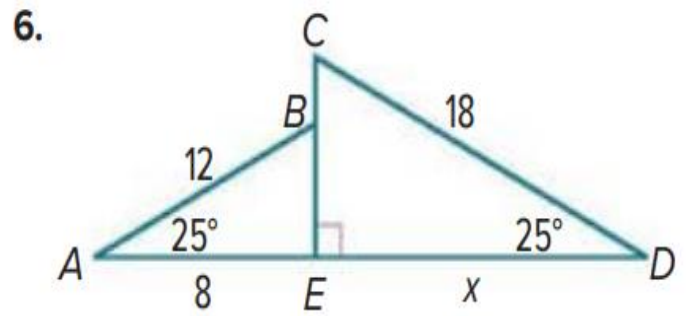
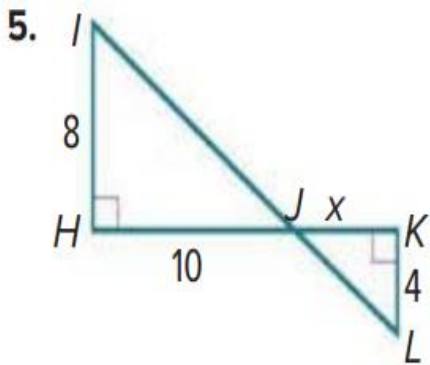
3.



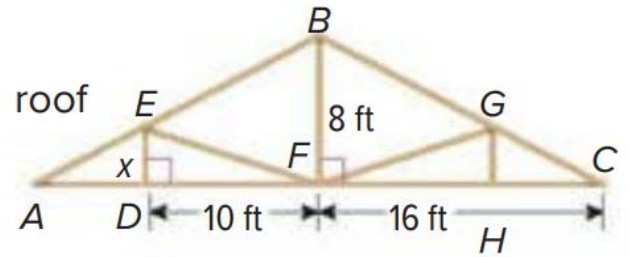
4.



Identify the similar triangles. Then find the value of x .

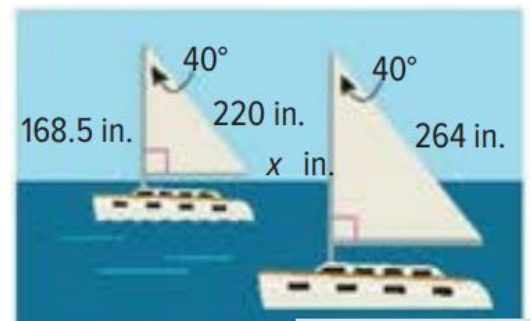


9. **ROOFING** The skeleton of a roof is shown. Find the value of x such that triangles DEF and FBC in the outline of the roof are similar



10. **RADIO** A radio tower casts an 8-foot-long shadow at the same time that a vertical yardstick casts a shadow one half inch long. If the triangles formed by the objects and their shadows are similar, how tall is the radio tower?

11. **SAILING** The two sailboats shown are participating in a regatta. If the sails are similar, what is the value of x ?

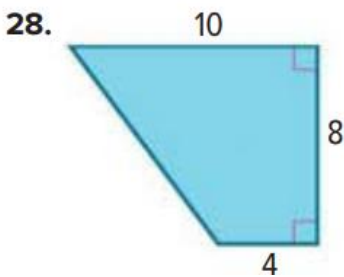
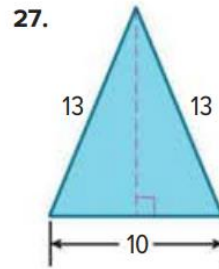
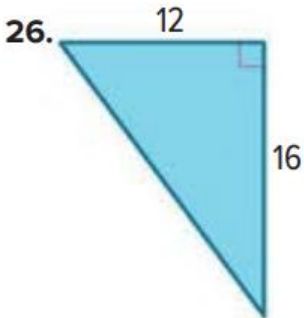


Unit 4

14	Use the Pythagorean Theorem to solve problems involving right triangles	26 to 35	173
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L 4.2

Find the perimeter and area of each figure.

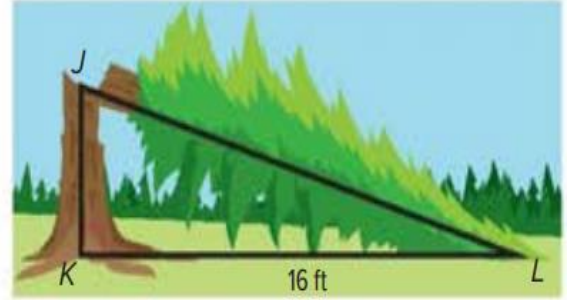


29. The sides of a triangle have measures of x , $x + 5$, and 25. If the measure of the longest side is 25, what value of x makes the triangle a right triangle?

30. **PRECISION** The sides of a triangle have measures of $2x$, 8, and 12. If the measure of the longest side is $2x$, what values of x make the triangle acute?

31. REASONING A redwood tree in a national park is 20 meters tall. After it is struck by lightning, the tree breaks and falls over, as shown in the figure. The top of the tree lands at a point 16 feet from the centerline of the tree. A park ranger wants to know the height of the remaining stump of the tree.

- a. The ranger lets x represent the height of the stump, \overline{JK} . Explain how the ranger can write an expression for the length of \overline{JL} . Then write an equation that can be used to solve the problem.



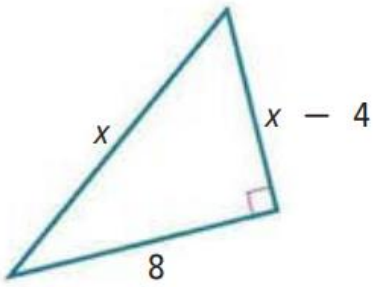
- b. Show how to solve the equation from part a to find the height of the stump.

32. CONSTRUCT ARGUMENTS Valeria and Sanjia are staking out a garden that has one pair of opposite sides measuring 30 feet and the other pair of sides measuring 40 feet. Using only a 60-foot-long tape measure, how can they be sure that their garden is a rectangle?

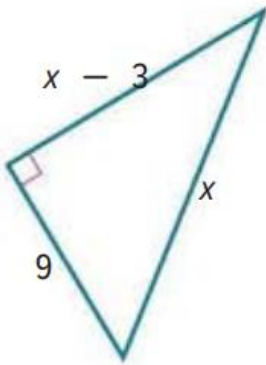
- a. Draw a model of the garden with diagonal t . Let $p = 30$ and $q = 40$.
- b. If the garden is a rectangle, what must be true about p , q , and t ? Why?

Find the value of x .

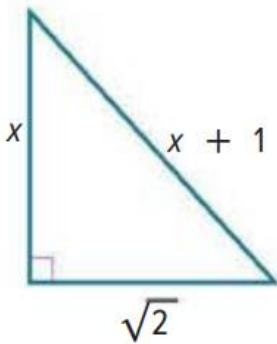
33.



34.



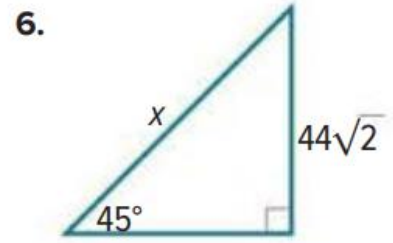
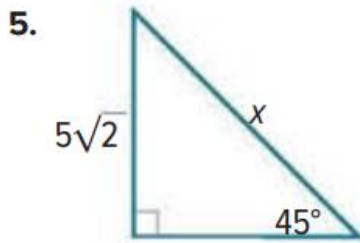
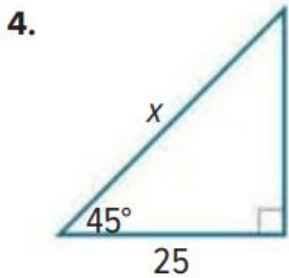
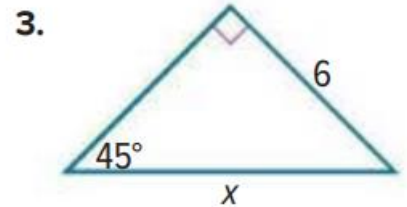
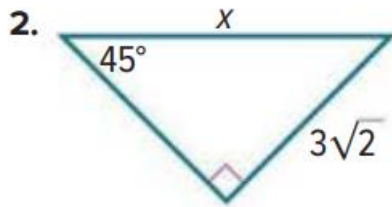
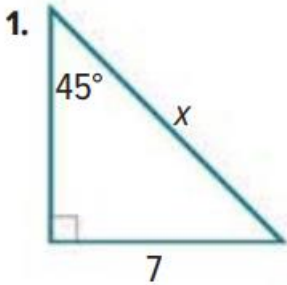
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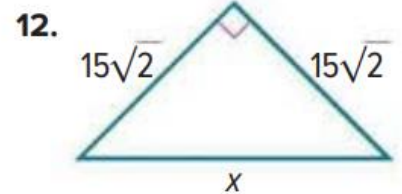
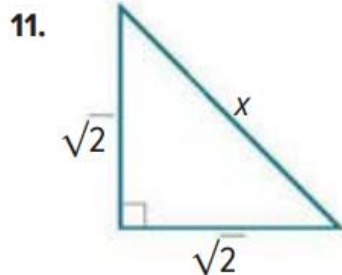
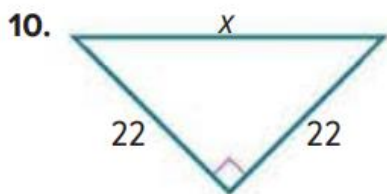
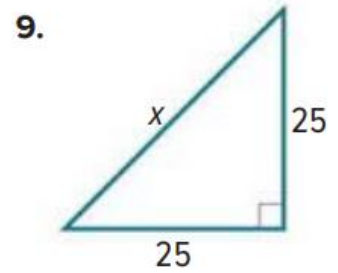
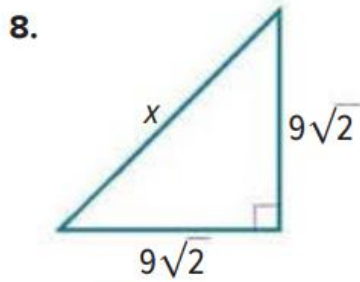
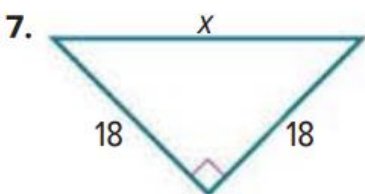
15	Understand that by similarity, side ratios in 45° - 45° - 90° right triangles are related to the angles in the triangles	1 to 18	183
		33 to 38	185

REGULARITY Find the value of x .

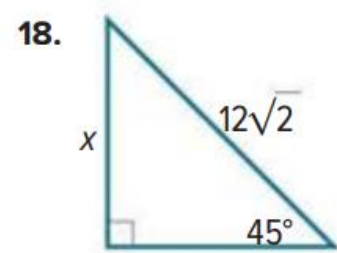
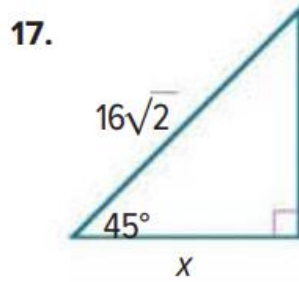
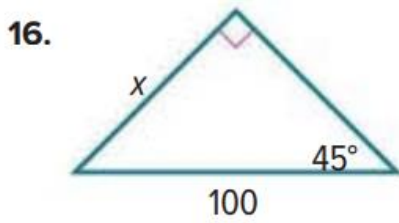
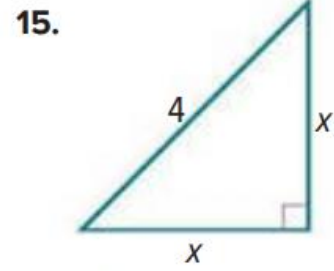
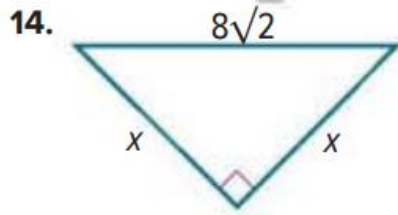
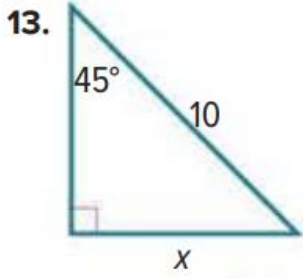
L 4.4



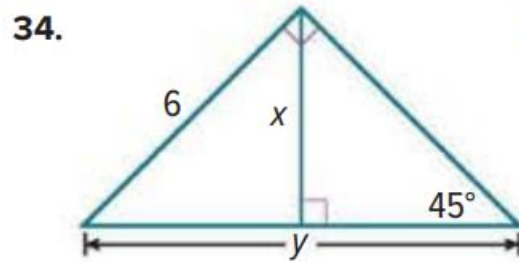
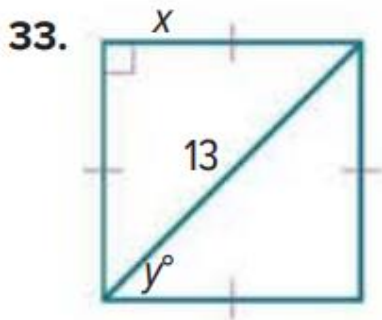
Find the value of x .



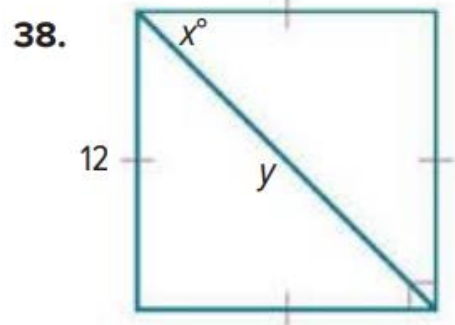
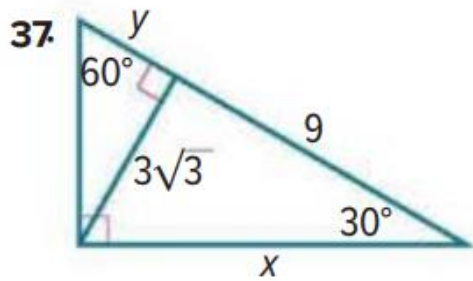
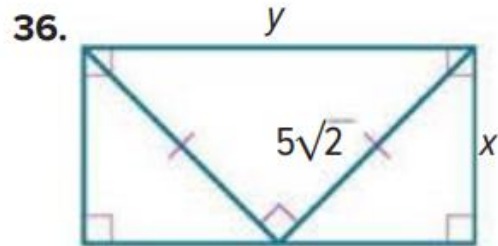
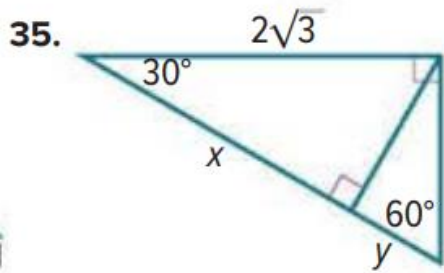
Find the value of x .



Find the values of x and y .



Find the values of x and y .



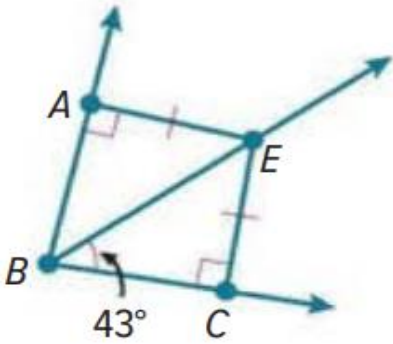
FRQ (الكتابية)

Unit 1 -Lesson 2

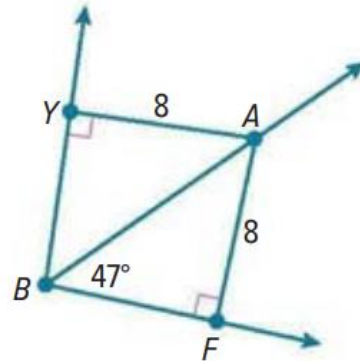
16	Prove theorems and solve problems about angle bisectors	1 to 6	15
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Find each measure.

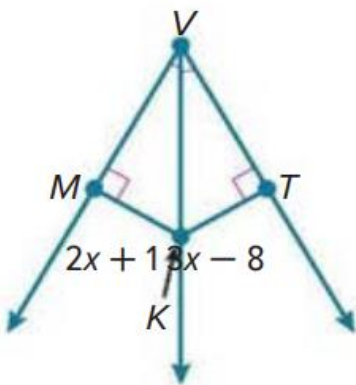
1. $m\angle ABE$



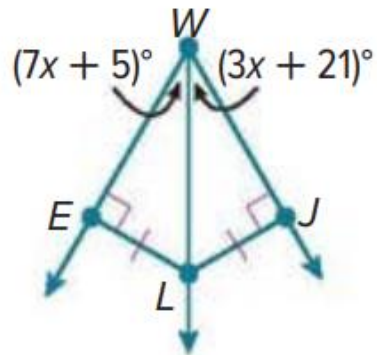
2. $m\angle YBA$



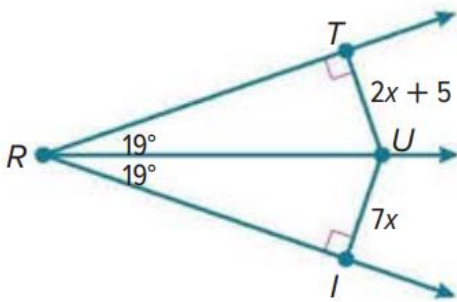
3. MK



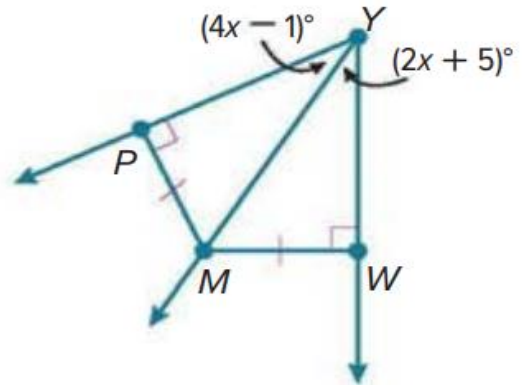
4. $m\angle EWL$



5. IU



6. $m\angle MYW$

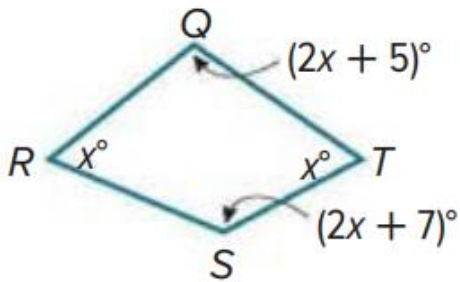


Unit 2 -Lesson1

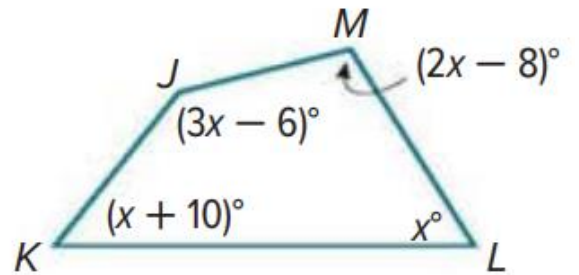
17	Prove and use the Polygon Interior Angles Sum Theorem	1 to 6	63
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Find the measure of each interior angle.

1.

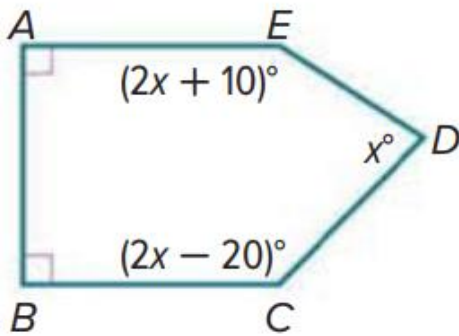


2.

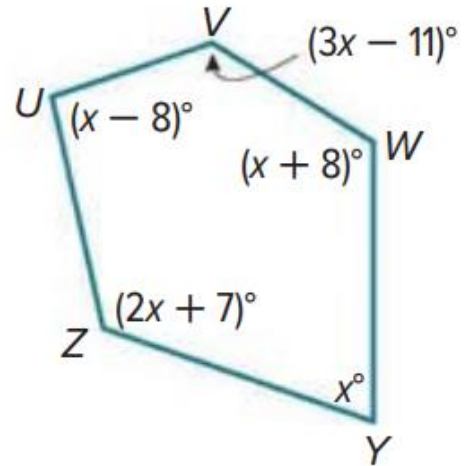


Find the measure of each interior angle.

3.



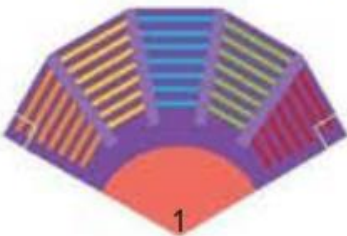
4.



5. **ARCHITECTURE** In the Uffizi gallery in Florence, Italy, there is a room built by Buontalenti called the Tribune (*La Tribuna* in Italian). This room is shaped like a regular octagon. What is the measure of the angle formed by two consecutive walls of the Tribune?



6. **THEATER** A theater floor plan is shown in the figure. The upper five sides are part of a regular dodecagon. Find $m\angle 1$.



Unit 2 -Lesson6

18

Apply the properties of kites to solve real-world and mathematical problems.

13 to 16

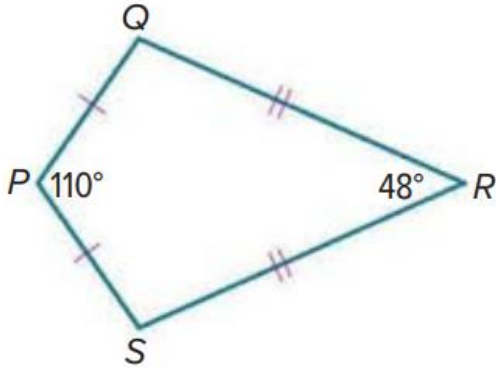
106

19, 20

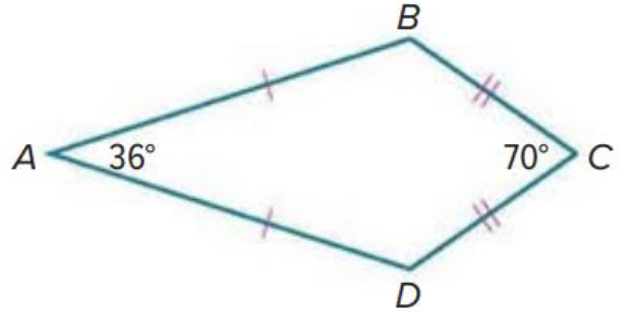
107

Find each measure in the kites.

13. $m\angle Q$



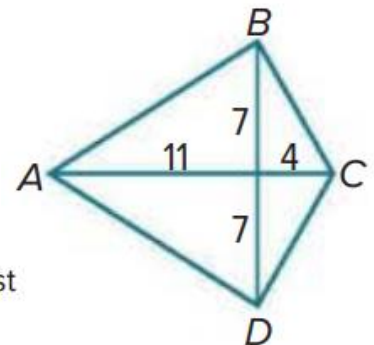
14. $m\angle D$



15. **REASONING** Quadrilateral $ABCD$ is a kite.

a. Find BC . Write your answer in simplest radical form.

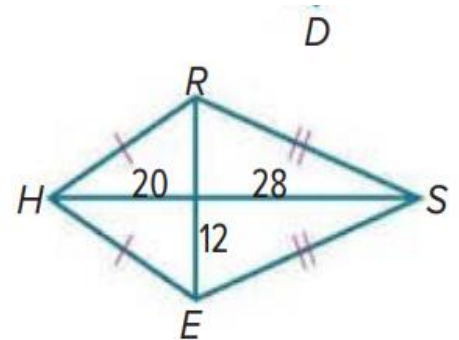
b. Find the perimeter of kite $ABCD$. Round your answer to the nearest tenth, if necessary.



16. **REASONING** Quadrilateral $HRSE$ is a kite.

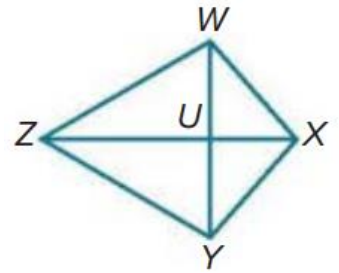
a. Find RH . Write your answer in simplest radical form.

b. Find the perimeter of kite $HRSE$. Round your answer to the nearest tenth, if necessary.

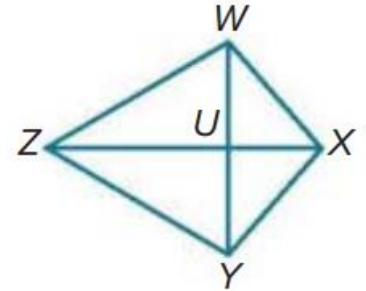


WXYZ is a kite.

19. If $m\angle WXY = 120^\circ$, $m\angle WZY = (4x)^\circ$, and $m\angle ZWX = (10x)^\circ$, find $m\angle ZYX$.



20. If $m\angle WXY = (13x + 24)^\circ$, $m\angle WZY = 35^\circ$, and $m\angle ZYX = (13x + 14)^\circ$, find $m\angle ZWX$.



Unit 3 -Lesson1

19	Use scale factors to calculate the dimensions of dilated images	1 to 18	119, 120
	Represent dilations as functions and find the scale factors of dilations		

Determine whether the dilation from the figure on the left to the figure on the right is an *enlargement* or a *reduction*. Then find the scale factor of the dilation.

1.

6 in.

18 in.

2.

12 cm

6 cm

3.

9 ft

6 ft

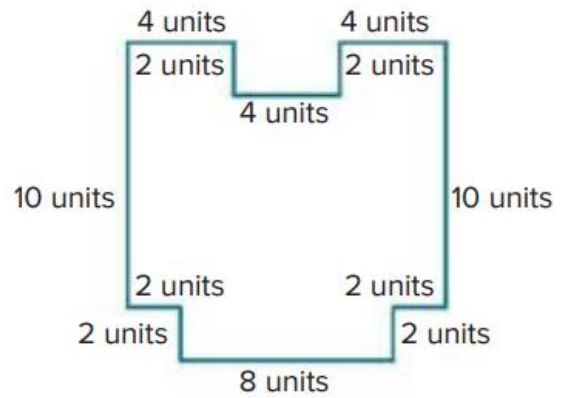
4.

5 m

8 cm

Example 2

5. BLUEPRINTS Ezra is redrawing the blueprint shown of a stage he is planning to build for his band. By what percentage should he multiply the dimensions of the stage so that the dimensions of the image are $\frac{1}{2}$ the size of the original blueprint? What will be the perimeter of the updated blueprint?



For each set of triangle vertices, find and graph the coordinates of the vertices of the image after a dilation of the triangle by the given scale factor.

6. $J(-8, 0), K(-4, 4), L(-2, 0), k = 0.5$

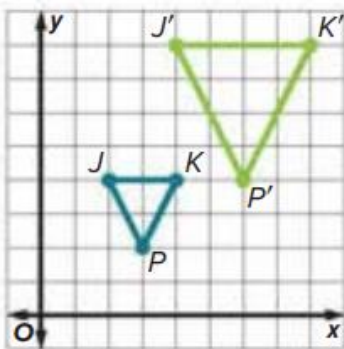
7. $S(0, 0), T(-4, 0), V(-8, -8), k = 1.25$

8. $A(9, 9), B(3, 3), C(6, 0), k = \frac{1}{3}$

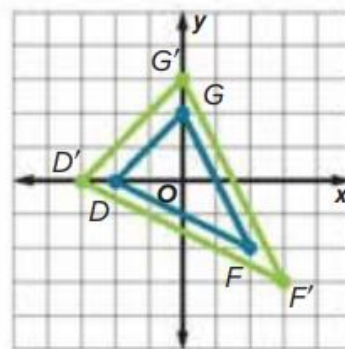
9. $D(4, 4), F(0, 0), G(8, 0), k = 0.75$

Find the scale factor of the dilation.

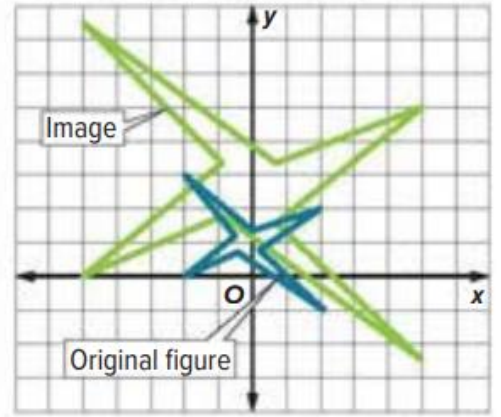
10. $\triangle J'K'P'$ is the image of $\triangle JKP$.



11. $\triangle D'F'G'$ is the image of $\triangle DFG$.



12. Tyrone drew a logo and a dilation of the same logo on the coordinate plane. What is the scale factor of the dilation?



Graph the image of each polygon with the given vertices after a dilation centered at the origin with the given scale factor.

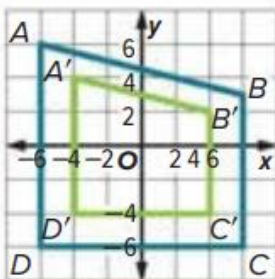
13. $F(-10, 4), G(-4, 4), H(-4, -8), k = 0.25$ 14. $X(2, -1), Y(-6, 4), Z(-2, -5), k = \frac{5}{4}$

15. $M(4, 6), N(-6, 2), P(0, -8), k = \frac{3}{4}$

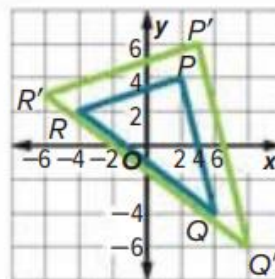
16. $R(-2, 6), S(0, -1), T(-5, 3), k = 1.5$

Find the scale factor of the dilation.

17. $A'B'C'D'$ is the image of $ABCD$.



18. $\triangle P'Q'R'$ is the image of $\triangle PQR$.



**Unit 4 -Lesson2**

20

Classify triangles using the converse of the Pythagorean Theorem

15 to 22

172

Determine whether the points X , Y , and Z can be the vertices of a triangle. If so, classify the triangle as *acute*, *right*, or *obtuse*. Justify your answer.

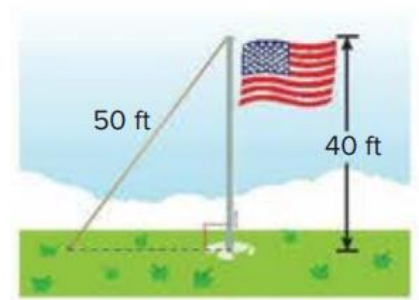
15. $X(-3, -2)$, $Y(-1, 0)$, $Z(0, -1)$

16. $X(-7, -3)$, $Y(-2, -5)$, $Z(-4, -1)$

17. $X(1, 2)$, $Y(4, 6)$, $Z(6, 6)$

18. $X(3, 1)$, $Y(3, 7)$, $Z(11, 1)$

19. **TETHERS** To help support a flag pole, a 50-foot-long tether is tied to the pole at a point 40 feet above the ground. The tether is pulled taut and tied to an anchor in the ground. How far away from the base of the pole is the anchor?



Determine whether each set of measures can be the measures of the sides of a triangle. If so, classify the triangle as *acute*, *obtuse*, or *right*. Justify your answer.

20. $\sqrt{5}$, $\sqrt{12}$, $\sqrt{13}$

21. 2, $\sqrt{8}$, $\sqrt{12}$

22. 9, 40, 41



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الإستراتيجية الموضوعية - MCQ

الإستراتيجية المقارنة - FRC