تم تحميل هذا الملف من موقع المناهج الإماراتية

مراجعة نهائية وفق الهيكل الوزاري منهج ريفيل

تاريخ إضافة الملف على موقع المناهج: 2024-05-24 13:51:26

إعداد: Shamsi Al Sara

التواصل الاجتماعي بحسب الصف التاسع المتقدم

اضغط هنا للحصول على جميع روابط "الصف التاسع المتقدم"

روابط مواد الصف التاسع المتقدم على تلغرام

التربية الاسلامية	اللغة العربية	اللغة الانجليزية	الرياضيات

المزيد من الملفات بحسب الصف التاسع المتقدم والمادة رياضيات في الفصل الثالث

1	تجميعة أسئلة الكتاب وفق الهيكل الوزاري
2	الهيكل الوزاري الجديد منهج ريفيل المسار المتقدم
3	الهيكل الوزاري الجديد منهج بريدج المسار المتقدم
4	أسئلة حول الوحدة الثانية عشرة المستقيمات المتوازية والمتعامدة

المزيد من الملفات بحسب الصف التاسع المتقدم والمادة رياضيات في الفصل الثالث	
5	كتاب الطالب منهج ريفيل

Al Jahili School C2/3

School Operation Sector 2

Council 6 - Cluster 4

مؤسسة الإمارات للتعليم المدرسي
EMIRATES SCHOOLS ESTABLISHMENT

MATH EOT Revision

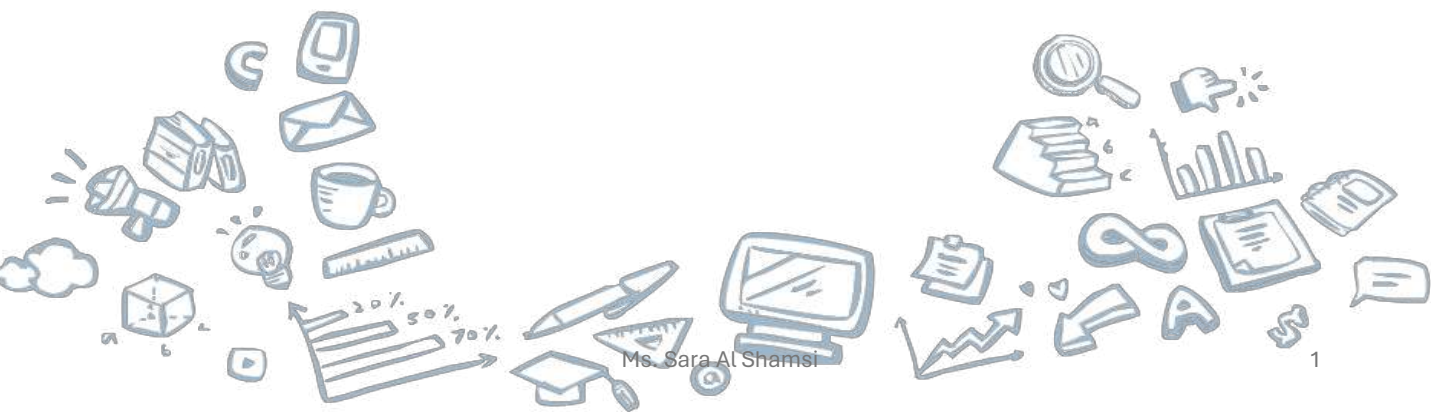
9 Advanced -Reveal

Term 3 – 2023/2024

Student Name:.....
Class:.....

School Principal: Fatima Al Nasri

MATH Teacher: Sara Al Shamsi



Multiple Choice Questions

Q1	M12L2: Statements, Conditionals, and Biconditionals	1 to 6	Pg 717

Examples 1 and 2

Use the statements to write a compound statement for each conjunction or disjunction. Then find the truth values. Explain your reasoning.

***p*: –3 – 2 = –5**
***q*: Vertical angles are congruent.**
***r*: 2 + 8 > 10**

1. p and q

2. $p \wedge r$

3. $q \vee \sim r$

4. $r \vee q$

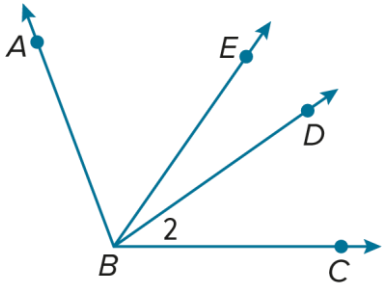
5. $\sim p \wedge \sim q$

6. $\sim r \vee \sim p$

Example 1

Find the measure of each angle.

1. Find $m\angle ABC$ if $m\angle ABD = 70°$ and $m\angle DBC = 43°$.

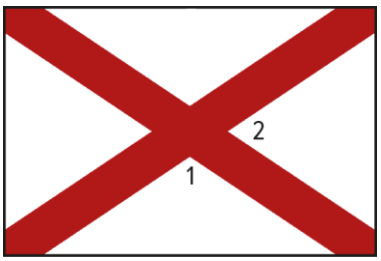


2. If $m\angle EBC = 55°$ and $m\angle EBD = 20°$, find $m\angle 2$.

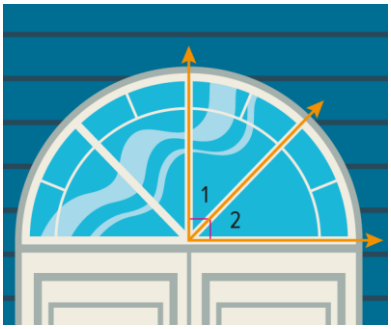
3. Find $m\angle ABD$ if $m\angle ABC = 110°$ and $m\angle 2 = 36°$.

Example 2

4. **FLAGS** The Alabama state flag is white and has two diagonal red stripes. If the $m\angle 1 = 112°$, what is $m\angle 2$?



5. **CONSTRUCTION** Alan has installed a new window above the entrance of an office building. If $m\angle 2 = 44°$, what is $m\angle 1$?

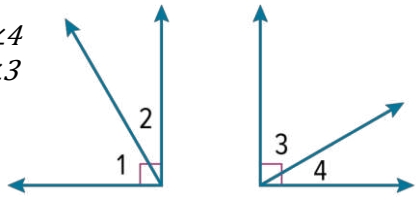


Example 3

PROOF Write a two-column proof.

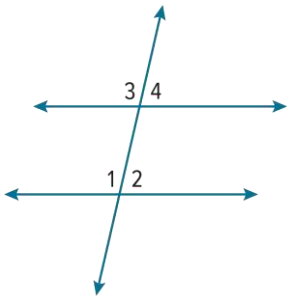
6. Given: $\angle 2 \cong \angle 4$

Prove: $\angle 1 \cong \angle 3$



7. Given: $\angle 1 \cong \angle 3$

Prove: $\angle 2 \cong \angle 4$

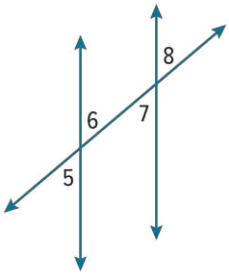


Example 4

PROOF Write a two-column proof.

8. Given: $\angle 5 \cong \angle 7$

Prove: $\angle 5 \cong \angle 8$



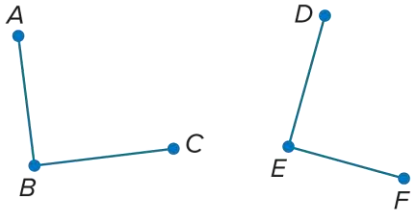
Example 5

PROOF Write a two-column proof.

9. Given: $m\angle ABC = m\angle DEF$

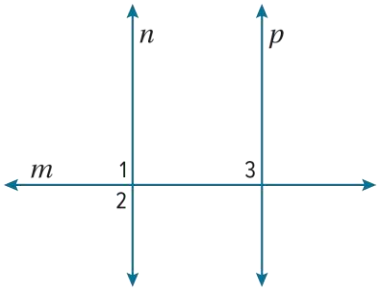
$\angle ABC$ and $\angle DEF$ are supplementary.

Prove: $\angle ABC$ and $\angle DEF$ are right angles.



10. Given: $\angle 1 \cong \angle 2; m \perp p$

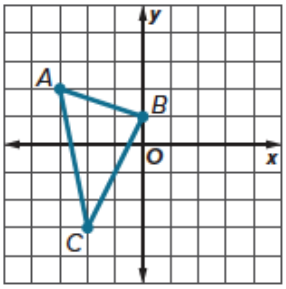
Prove: $\angle 2 \cong \angle 3$



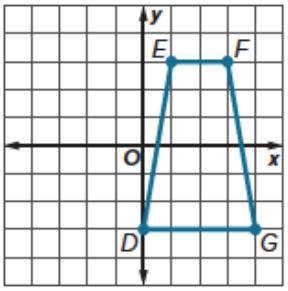
Examples 1 and 2

Graph the image of each figure under the given reflection. Determine the coordinates of the image.

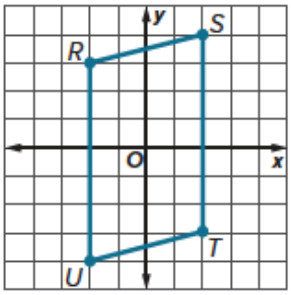
1. △*ABC* in the line $y = x$



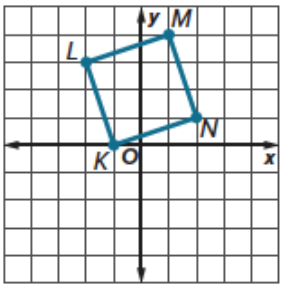
2. trapezoid *DEFG* in the line $x = -1$



3. parallelogram *RSTU* in the line $y = x$



4. square *KLMN* in the line $y = -2$



5. Determine the coordinates of $S(-7, 1)$ after a reflection in the line $y = 3$.

6. Determine the coordinates of $Q(6, -4)$ after a reflection in the line $x = 2$.

Example 3

Determine whether each pair of lines is *parallel, perpendicular,* or *neither*.

10. $y = 2x + 4$, $y = 2x - 10$

11. $y = -\frac{1}{2}x - 12$, $y - 3 = 2(x + 2)$

12. $y - 4 = 3(x + 5)$, $y + 3 = -\frac{1}{3}(x + 1)$

13. $y - 3 = 6(x + 2)$, $y + 3 = -\frac{1}{3}(x - 4)$

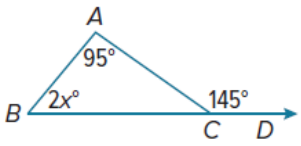
14. $x = -2, y = 10$

15. $y = 5, y = -3$

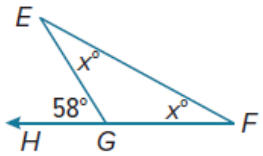
Example 2

Find each measure.

5. $m\angle ABC$

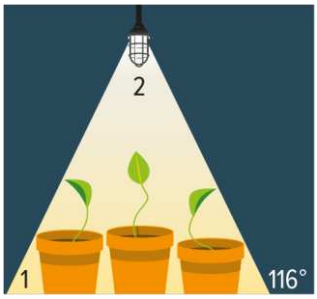


6. $m\angle F$



7. **TOWERS** A lookout tower sits on a network of struts and posts. Leslie measured three angles on the tower. If $m\angle 1=(7x-7)°$, $m\angle 2=(4x+2)°$, and $m\angle 3=(2x+6)°$, what is $m\angle 1$?

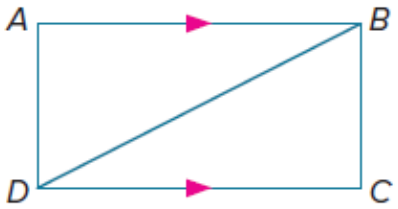
8. **GARDENING** A gardener uses a grow light to grow vegetables indoors. If $m\angle 1=8x°$ and $m\angle 2=(7x-4)°$, what is $m\angle 1$?



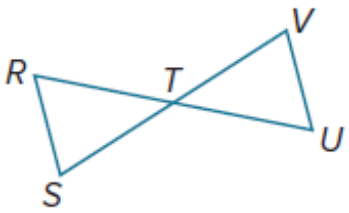
Example 1

PROOF Write the specified type of proof.

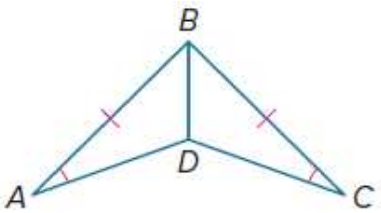
1. two-column proof
Given: $\overline{AB} \parallel \overline{CD}$, $\angle CBD \cong \angle ADB$
Prove: $\triangle ABD \cong \triangle CDB$



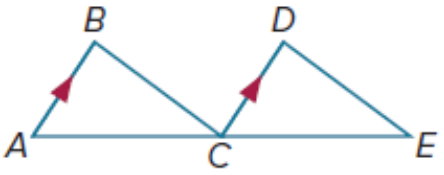
2. two-column proof
Given: $\angle S \cong \angle V$, T is the midpoint of $\overline{SV}$.
Prove: $\triangle RTS \cong \triangle UTV$



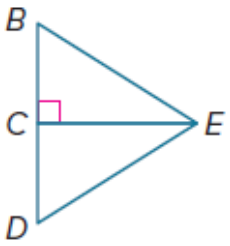
3. flow proof
Given: $\overline{AB} \cong \overline{CB}$, $\angle A \cong \angle C$, and $\overline{DB}$ bisects $\angle ABC$
Prove: $\overline{AD} \cong \overline{CD}$



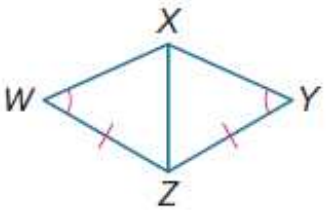
4. Paragraph proof
Given: $\overline{CD}$ bisects $\overline{AE}$, $\overline{AB} \parallel \overline{CD}$, $\angle E \cong \angle BCA$
Prove: $\triangle ABC \cong \triangle CDE$



5. paragraph proof
Given: $\overline{CE}$ bisects $\angle BED$; $\angle BCE$ and $\angle ECD$ are right angles.
Prove: $\triangle ECB \cong \triangle ECD$



6. paragraph proof
Given: $\angle W \cong \angle Y$, $\overline{WZ} \cong \overline{YZ}$, and $\overline{XZ}$ bisects $\angle WZY$
Prove: $\triangle XWZ \cong \triangle XYZ$



Example 1

Write a conjecture that describes the pattern in each sequence. Then use your conjecture to find the next term in the sequence.

1. 4, 8, 12, 16, 20

2. 2, 22, 222, 2222

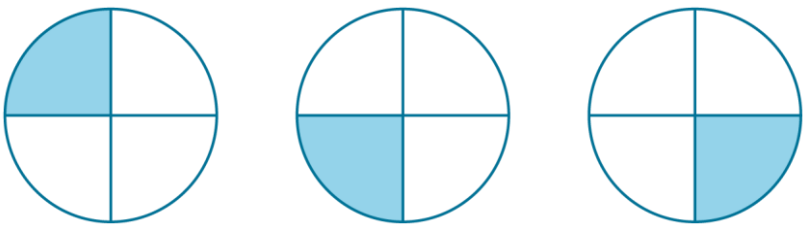
3. $1, \frac{1}{2}, \frac{1}{4}, \frac{1}{8}$

4. $6, \frac{11}{2}, 5, \frac{9}{2}, 4$

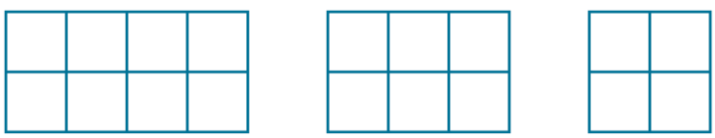
5. Arrival times: 3:00 P.M., 12:30 P.M., 10:00 A.M., …

6. Percent humidity: 100%, 93%, 86%, …

7.



8.

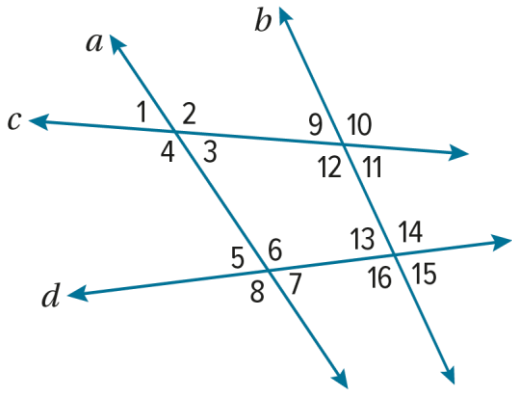


Examples 2 and 3

Identify the transversal connecting each pair of angles. Then classify the relationship between each pair of angles as *alternate interior*, *alternate exterior*, *corresponding*, or *consecutive interior* angles.

8. ∠4 and ∠5

9. ∠5 and ∠15



10. ∠12 and ∠14

11. ∠7 and ∠15

12. ∠2 and ∠12

13. ∠3 and ∠6

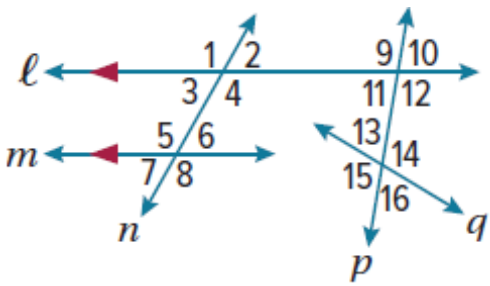
14. ∠1 and ∠9

15. ∠3 and ∠9

16. ∠10 and ∠16

17. ∠5 and ∠13

For Exercises 18 and 19, use the figure.



18. What type of angles are ∠3 and ∠10?

19. State the transversal that connects ∠11 and ∠13.

Example 5

Write an equation in slope-intercept form for each line described.

22. passes through (–7, –4), perpendicular to $y = \frac{1}{2}x + 9$

23. passes through (–1, –10), parallel to $y = 7$

24. passes through (6, 2), parallel to $y = -\frac{2}{3}x + 1$

25. passes through (–2, 2), perpendicular to $y = -5x - 8$

Mixed Exercises

Find the value of *x* or *y* that satisfies the given conditions. Then graph the line.

26. The line containing (4, –2) and (*x*, –6) is perpendicular to the line containing (–2, –9) and (3, –4).

27. The line containing (–4, 9) and (4, 3) is parallel to the line containing (–8, 1) and (4, *y*).

Example 3

Find the distance between each pair of parallel lines with the given equations.

9. $y = 7$
$y = -1$

10. $x = -6$
$x = 5$

11. $y = 3x$
$y = 3x + 10$

12. $y = -5x$
$y = -5x + 26$

13. $y = x + 9$
$y = x + 3$

14. $y = -2x + 5$
$y = -2x - 5$

15. $y = \frac{1}{4}x + 2$
$4y - x = -60$

16. $3x + y = 3$
$y + 17 = -3x$

17. $y = -\frac{5}{4}x + 3.5$
$4y + 10.6 = -5x$

Mixed Exercises

Find the distance from the line to the given point.

18. $y = -3$; $(5, 2)$

19. $y = \frac{1}{6}x + 6$; $(-6, 5)$

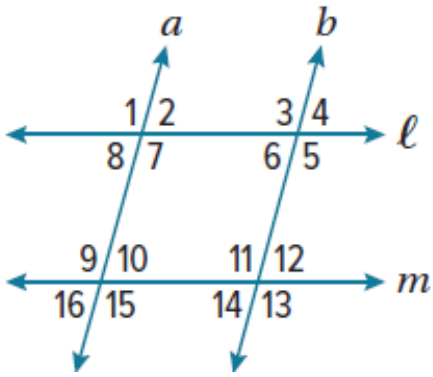
20. $x = 4$; $(-2, 5)$

Example 1

Use the given information to determine which lines, if any, are parallel. State the postulate or theorem that justifies your answer.

1. $\angle 3 \cong \angle 7$

2. $\angle 9 \cong \angle 11$



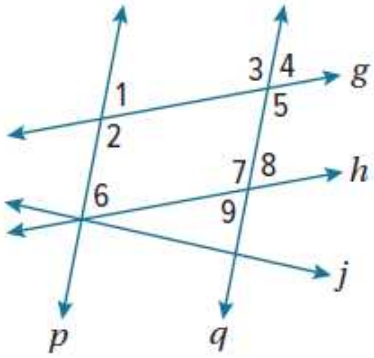
3. $\angle 2 \cong \angle 16$

4. $m\angle 5 + m\angle 12 = 180°$

Given the following information, determine which lines, if any, are parallel. State the theorem that justifies your answer.

5. $\angle 1 \cong \angle 6$

6. $m\angle 7 + m\angle 6 = 180°$



Example 3 Determine Order and Magnitude of Symmetry

Part A State the order and magnitude of symmetry.

Determine whether each figure has rotational symmetry. If so, locate the center of symmetry and state the order and magnitude of symmetry.

a. 

rotational symmetry: yes

order = 5
magnitude = 72°

b. 

rotational symmetry: no

order = none
magnitude = none

c. 

rotational symmetry: yes

order = 2
magnitude = 180°

Part B Identify point symmetry.

Which figure(s) in Part A has point symmetry? Justify your reasoning.

The parallelogram has point symmetry because it can be rotated 180° about its center so it maps onto itself.

Check

Determine whether each figure has rotational symmetry. If so, copy the figure and locate the center of symmetry and state the order and magnitude of symmetry.

a. 

rotational symmetry: ? yes

order = ? 2

magnitude = ? 180°

b. 

rotational symmetry: ? no

order = ? none

magnitude = ? none

c. 

rotational symmetry: ? yes

order = ? 3

magnitude = ? 120°

Which figure(s) has point symmetry? Justify your answer.

The rectangle has point symmetry because it can be rotated 180° about its center so it maps onto itself.

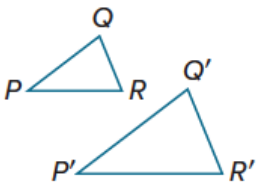
Name the image of each point after the given translation vector.

8. $F(-3, 1)$; $\langle 5, -1 \rangle$ **9.** $Q(4, -2)$; $\langle -2, -5 \rangle$ **10.** $P(9, 1.5)$; $\langle 3, -0.5 \rangle$

11. The image of $A(-3, -5)$ under a translation is $A'(6, -1)$. Find the image of $B(3, -2)$ under the same translation.

12. **CONSTRUCT ARGUMENTS** Explain why $\triangle A'B'C'$ with vertices $A'(-1, -2)$, $B'(0, 0)$, and $C'(-6, 0)$ is not a translation image of $\triangle ABC$ with vertices $A(1, 2)$, $B(0, 0)$, and $C(6, 0)$.

13. Determine whether $\triangle P'Q'R'$ is a translation image of $\triangle PQR$. Explain.

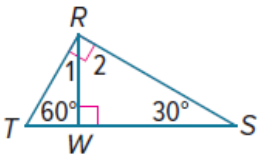


14. Determine the translation vector that moves every point of a preimage 4 units left and 6 units up.

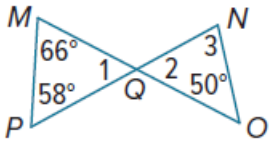
Example 1

Find the measure of each numbered angle.

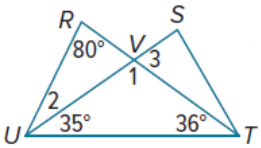
1.



2.



3.

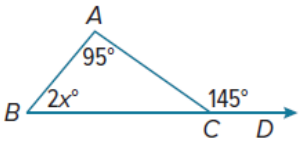


4.

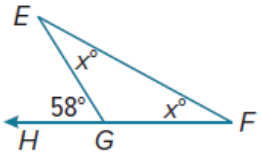
Example 2

Find each measure.

5. $m\angle ABC$



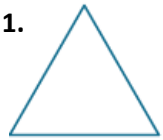
6. $m\angle F$



Example 1

Determine whether each figure has a line of symmetry. If so, draw the lines of symmetry and state how many lines of symmetry it has.

1.

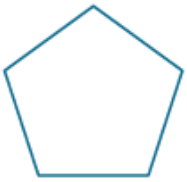


2.

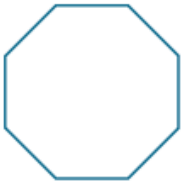
3.

4.

5.



6.



Example 2

7. **CARS** Steve found the hubcaps shown below at his local junkyard. Determine whether each hubcap has rotational symmetry. Explain.

a.

b.

c.

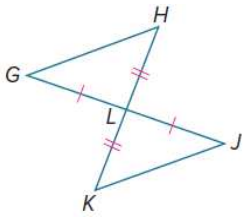
Free Response Questions

Q16	M14L3: Proving Triangles Congruent – SSS, SAS	17 to 20	Pg 861

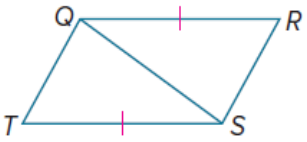
Mixed Exercises

Explain whether there is enough information given in each figure to prove that the triangles are congruent using SSS or SAS.

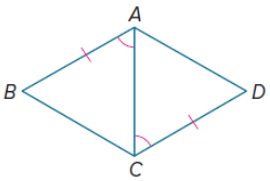
17.



18.



19.



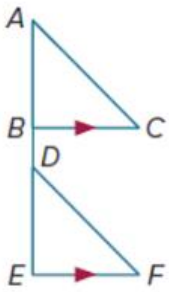
20.

PROOF Write the specified type of proof.

10. two-column proof

Given: $\overline{BC} \parallel \overline{EF}$, $\overline{AB} \cong \overline{DE}$, $\angle C \cong \angle F$

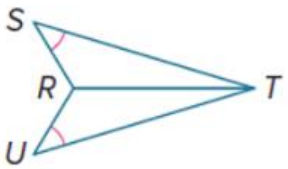
Prove: $\triangle ABC \cong \triangle DEF$



11. flow proof.

Given: $\angle S \cong \angle U$, and $\overline{TR}$ bisects $\angle STU$

Prove: $\triangle SRT \cong \triangle URT$



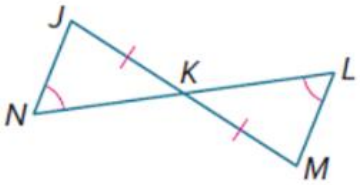
Example 3

PROOF Write the specified type of proof.

12. flow proof

Given: $\overline{JK} \cong \overline{MK}$, $\angle N \cong \angle L$

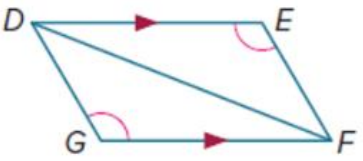
Prove: $\triangle JKN \cong \triangle MKL$



13. paragraph proof

Given: $\overline{DE} \parallel \overline{FG}$, $\angle E \cong \angle G$

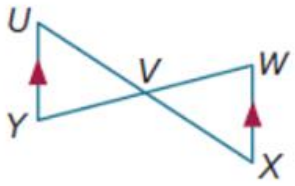
Prove: $\triangle DFG \cong \triangle FDE$



14. two-column proof

Given: V is the midpoint of $\overline{YW}$;
$\overline{UY} \parallel \overline{XW}$.

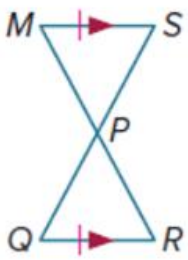
Prove: $\triangle UVY \cong \triangle XVW$



15. two-column proof

Given: $\overline{MS} \cong \overline{RQ}$,
$\overline{MS} \parallel \overline{RQ}$

Prove: $\triangle MSP \cong \triangle RQP$

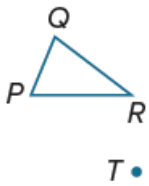


Mixed Exercises

6. Point Q with coordinate (4, –7) is rotated 270° clockwise about (5, 1). What are the coordinates of its image?

7. Parallelogram $JKLM$ has vertices $J(2, 1)$, $K(7, 1)$, $L(6, -3)$, and $M(1, -3)$. What are the coordinates of the image of K if the parallelogram is rotated 270° counterclockwise about (–2, –1)?

8. **USE TOOLS** Use a protractor and ruler to draw a rotation of $\triangle PQR$ 210° about T.

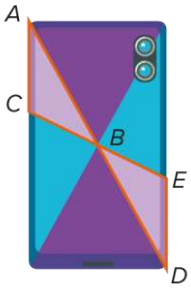


9. The line segment XY with endpoints $X(3, 1)$ and $Y(2, -2)$ is rotated 90° counterclockwise about (–6, 4). What are the endpoints of $X'Y'$?

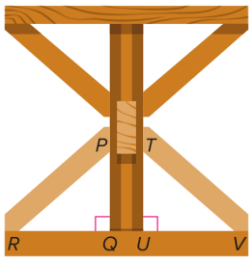
10. **HIKING** A damaged compass points northwest instead of north. If you travel west by the compass, what is your angle of rotation to true north?

Example 3

12. DESIGN Camila is designing a new image for her cell phone case. If $m\angle ABC=35^\circ$, $m\angle BAC=29^\circ$, and $\angle ACB\cong\angle DEB$, what is $m\angle DEB$?



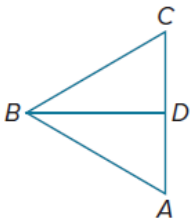
13. CARPENTRY Mr. Lewis is building a rustic dining table. Instead of having four legs, the table has a set of supports at each end. If $\angle PRQ\cong\angle TVU$ and $m\angle RPQ=49^\circ$, what is $m\angle TVU$?



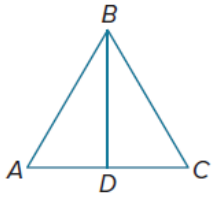
Example 4

PROOF For 14-16, write a two-column proof.

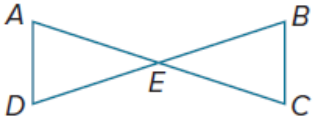
14. **Given:** $AB\cong CB$, $AD\cong CD$, $\angle BAD\cong\angle BCD$, BD bisects $\angle ABC$.
Prove: $\triangle ABD\cong\triangle CBD$



15. **Given:** $AB\cong CB$, $AD\cong CD$, $\angle ABD\cong\angle CBD$, $\angle ADB\cong\angle CDB$
Prove: $\triangle ABD\cong\triangle CBD$



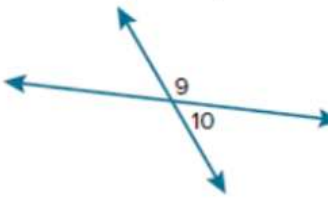
16. **Given:** $\angle A\cong\angle C$, $\angle D\cong\angle B$, $AD\cong CB$, $AE\cong CE$, AC bisects BD.
Prove: $\triangle AED\cong\triangle CEB$



Find the measure of each numbered angle and name the theorems used to justify your work.

16. $\angle 2$ and $\angle 4$ and $\angle 4$ and $\angle 5$ are supplementary.
$m\angle 4 = 105°$.

17. $m\angle 9 = (3x + 12)°$
$m\angle 10 = (x - 24)°$



18. $m\angle 3 = (2x + 23)°$
$m\angle 4 = (5x - 112)°$