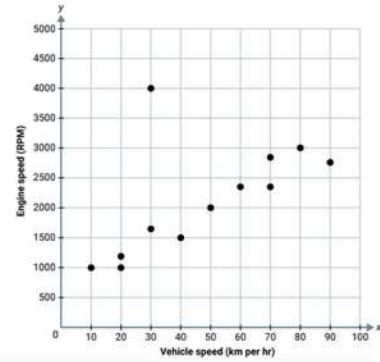An automobile company tests its new engine's speed (in RPM) at different speeds of the vehicle on the road. Interpret the scatter plot data shown below and select the correct choice.
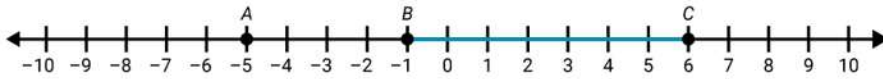

○ Negative Linear association

○ Negative nonlinear association

○ Positive nonlinear association

○ Positive Linear association

Use the number line and find the coordinate of the midpoint of $\overline{BC}$.
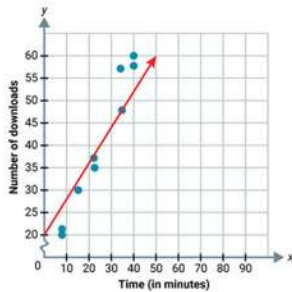

○ 3

○ 3.5

○ 2

○ 2.5

The scatter plot is shown for the number of downloads of a new game after its release. Using the equation of a line, find how many games will be downloaded after 60 minutes.

○ 45 downloads

○ 75 downloads

○ 50 downloads

○ 68 downloads

The table shows the number of pets checked by a veterinary doctor on 10 different days. By calculating the mean absolute deviation select the statement that describes what the value represents.

| Pets Checked by a Veterinary in 10 Days				
15	16	7	16	2
12	8	3	10	11

○ The average distance between the number of pets checked by a veterinary physician on each day and the smallest value in the data set is 20.

○ The average distance between the number of pets checked by a veterinary physician on each day and the mean is 10.

○ The average distance between the number of pets checked by a veterinary physician on each day and the number of values in the data set is 4.

○ The average distance between the number of pets checked by a veterinary physician on each day and the mean is 4.

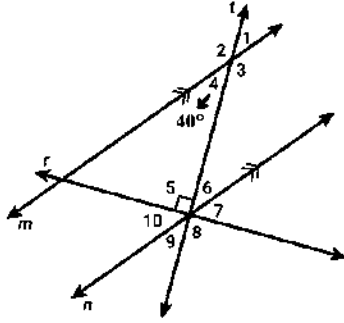Find the value of x in the given diagram.

77°   (x + 20)°

79°

(2x + 4)°
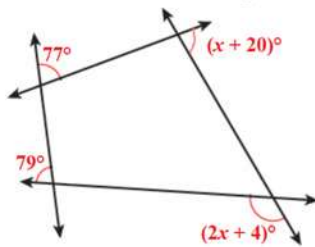
○ 0

○ 16

○ 60

○ 80

Find $m\angle 9$ in the given diagram.

- ○ 50°
- ○ 60°
- ○ 80°
- ○ 40°

Find the value of x in the given quadrilateral.
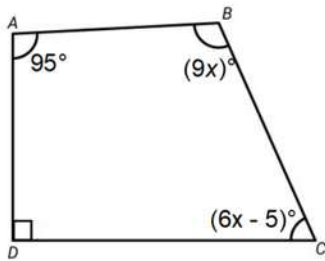
- ○ 18
- ○ 12
- ○ 20
- ○ 16

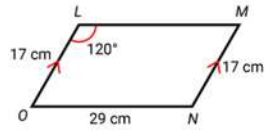Given $m \parallel p$. Find the value of x.
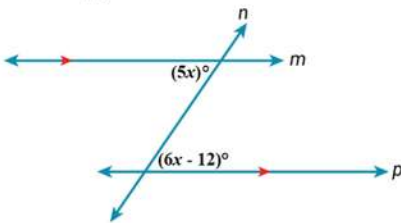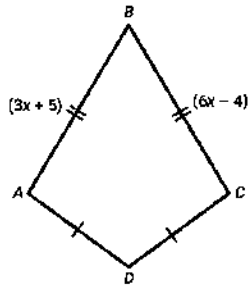

- ○ 12
- ○ $17\dfrac{5}{11}$
- ○ 60
- ○ $\dfrac{12}{11}$

LMNO is a quadrilateral. What property is used to show that the figure is a parallelogram?
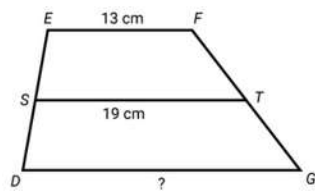

- ○ A pair of opposite sides are congruent and parallel.
- ○ A pair of consecutive angles are supplementary.
- ○ A pair of sides are perpendicular.
- ○ A pair of sides are parallel.

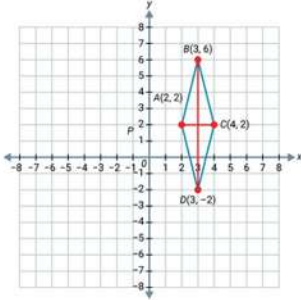Quadrilateral *ABCD* is a kite. Find *BC*.

- ○ 3
- ○ 14
- ○ 18
- ○ 8

Trapezoid *DEFG* has one base that measures 13 centimeters and a midsegment that measures 19 centimeters. What is the length of $\overline{DG}$?

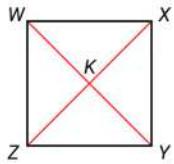- ○ 22 cm
- ○ 32 cm
- ○ 6 cm
- ○ 25 cm

Classify *ABCD*.

○ rectangle	○ rhombus
○ square	○ trapezoid

WXYZ is a square. *WK* = 9x + 3 and *XK* = 12x − 3. What is the length of *XZ*?

○ 18	○ 9
○ 42	○ 21

In rhombus *STAR*, m∠*RTA* = 54° . Find the measure of ∠*SRA*.
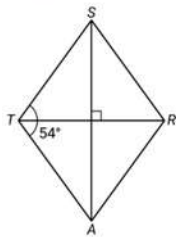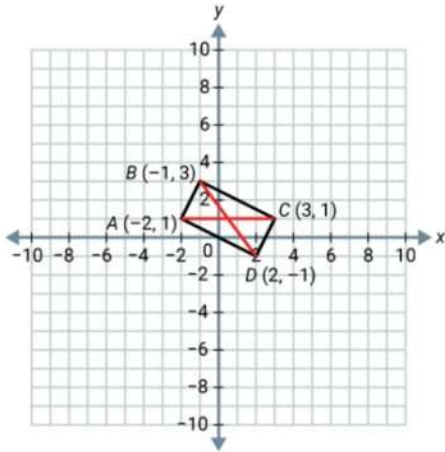

○ 54°	○ 108°
○ 82°	○ 90°

Find the length of diagonals $\overline{AC}$ and $\overline{BD}$ to show that parallelogram *ABCD* is a rectangle.

- ○ AC = 5 and BD = 6
- ○ AC = BD = √5
- ○ AC = 5 and BD = √5
- ○ AC = BD = 5

WXYZ is a rectangle with diagonals $\overline{WY}$ and $\overline{XZ}$. $m\angle WYZ = (2x+5)°$ and $m\angle WYX = (3x+10)°$. What is the measure of $\angle WYZ$?
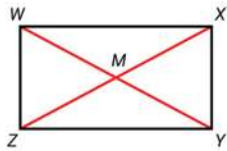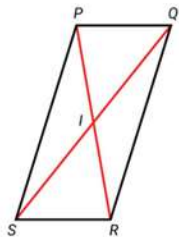

- ○ 65°
- ○ 55°
- ○ 35°
- ○ 45°

Parallelogram *PQRS* is shown. The diagonals intersect at *I*. *PR* = 36. Find *PI*.

- ○ 18
- ○ 36
- ○ 72
- ○ 54

In parallelogram *PQRS*, $m\angle Q = 65°$. Find the $m\angle R$.
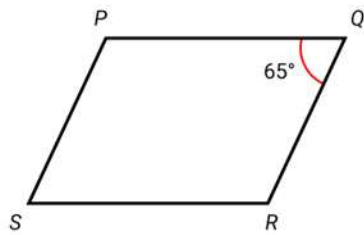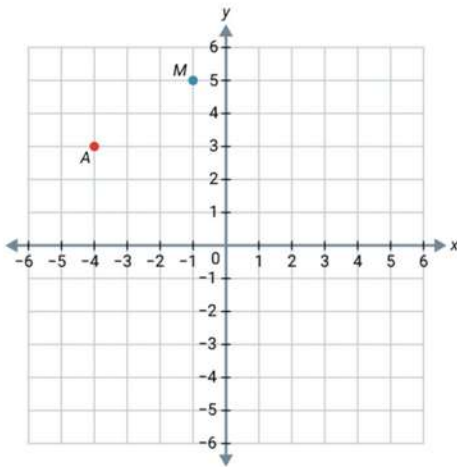

- ○ 65°
- ○ 115°
- ○ 180°
- ○ 90°

Use the midpoint formula to find the other endpoint of line segment *AB*. The midpoint is $M(-1, 5)$ and one endpoint $A(-4, 3)$.

- ○ (−2, 10)
- ○ (8, 30)
- ○ (2, 7)
- ○ (−6, 13)

Given: Y is the midpoint of $\overline{XZ}$. $XY = 5x$ and $YZ = 4x + 20$.

Prove: $x = 20$

X •————————————• Y ————————————————• Z
  5x   4x + 20

Statements	Reasons
1. Y is the midpoint of $\overline{XZ}$.	1. Given
2. $\overline{XY} \cong \overline{YZ}$	2. Definition of midpoint
3. $XY = YZ$	3. Definition of congruent segments
4. $5x = 4x + 20$	4. _____
5. $x = 20$	5. Subtraction Property of Equality

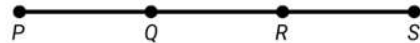Choose the appropriate reason for the missing statement.

○ Segment addition prostualte   ○ Transitive property

○ Subtraction property   ○ Substitution

If $PR = 14\ cm$ and $\overline{PQ} \cong \overline{RS}$, then what is the length of QS?

P •————• Q ————• R ————• S

○ 28   ○ 14

○ 7   ○ 21

The weather forecasting team forecasted 30 mm of rain on Sunday. Find the relative error. Round to the nearest tenth of a percent.
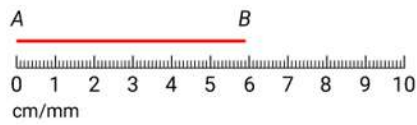

○ 5%   ○ 17%

○ 0.14%   ○ 1.7%

Find the length of the given line to the nearest millimeter.

A _____ B

```
|||||||||||||||||||||||||||||||||||||||||||||||||||||||
0   1   2   3   4   5   6   7   8   9   10
cm/mm
```

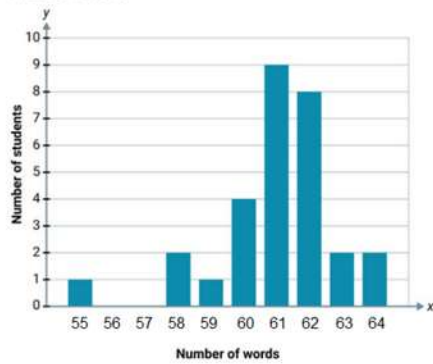○ 59 mm   ○ 55 mm

○ 62 mm   ○ 5.9 mm

The graph shows the number of correctly spelled words written by students in a spelling game. Identify the peak of the distribution.
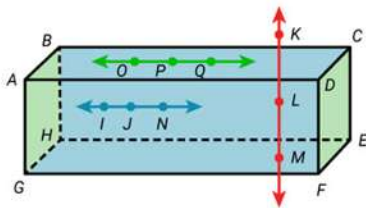

Number of words

○ 55   ○ 60

○ 62   ○ 61

Look at the figure. Which of the following points are collinear?
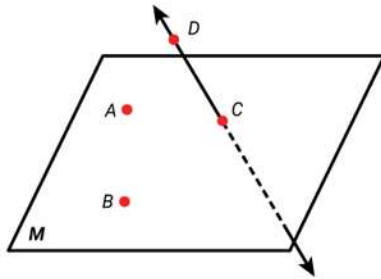

○ G, H, and A   ○ I, J, and N

○ G, H, and I   ○ I, J, and D

Which of the following points is the point of intersection of the given plane *M* and line *CD*?
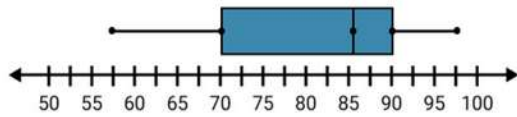

- ○ B
- ○ D
- ○ A
- ○ C

Abdulla represented the scores obtained by his classmates in the math test on a box plot. Find the interquartile range of the data.

Math test scores

- ○ 85
- ○ 90
- ○ 40
- ○ 20

A two-way table for the responses of people about whether they like guitar or drums is shown below.
How many people chose no guitar and no drums?

	Guitar	No guitar	Total
Drums	14	17	31
No drums	10	9	19
Total	24	26	50

- ○ 17
- ○ 14
- ○ 9
- ○ 10

Which of the following should be used to find the center of non-symmetric data?
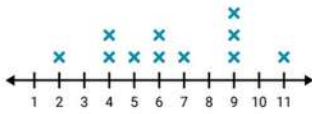
- ○ median
- ○ mean
- ○ minimum Value
- ○ maximum value

Find the center of the data shown.

- ○ 4
- ○ 6
- ○ 5
- ○ 9