الملف أسئلة هيكل امتحان وزاري الفصل الثالث مع الحل

روابط مواقع التواصل الاجتماعي بحسب الصف السادس



روابط مواد الصف السادس على تلغرام

التربية الاسلامية	اللغة العربية	اللغة الانجليزية	الرياضيات

المزيد من الملفات بحسب الصف السادس والمادة رياضيات في الفصل الثالث

1	الصف السادسالفصل الثالث رياضيات امتحان رياضيات مع الاجوبة 2011
2	أوراق عمل
3	امتحان نهاية العام 20152016
4	امتحان نهاية العام 2011 مع الحل
5	مراجعة وحدة المساحة.

Grade 6 Mathematics
Academic Year 2021/2022 – Term 3

EoT3 Exam Coverage In Term 3 (2021 - 2022)

Done by : Mr: Rami& Mr: Abdulraqeb and

Mr Badr Araafat / Sultan Bin Zayed

Academic Quality Improvement Officer \ MATH
Mariam Fares Aldhaheri

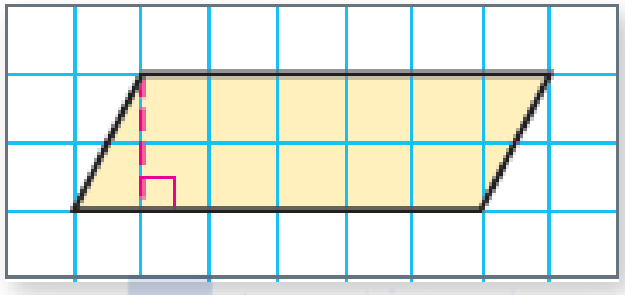
Cluster Principal : Laila Alhammadi

Lead Principal : Fatima Al Darmaki

*	Best 20 answers out of 25 will count. Example: 14 correct answers yield a grade of 70/100, while 20 and 23 correct answers yield a (full) grade of 100/100 each.
*	تحتسب أفضل 20 إجابة من 25. مثال: 14 إجابة صحيحة تعطي علامة 70/100 بينما 20 أو 23 إجابة صحيحة تعطي العلامة الكاملة أي 100/100.
**	Questions might appear in a different order in the actual exam.
**	قد تظهر الأسئلة بترتيب مختلف في الامتحان الفعلي.
***	As it appears in the textbook/LMS/SoW.
***	كما وردت في كتاب الطالب وLMS و الخطة الفصلية.

إيجاد مساحة متوازي الأضلاع.	1 - 3	658
Find the area of the parallelogram.	1 - 3	

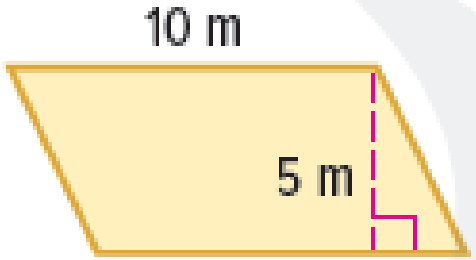
Find the area of each parallelogram.



$A = bh$

$A = 6 \times 2 =$

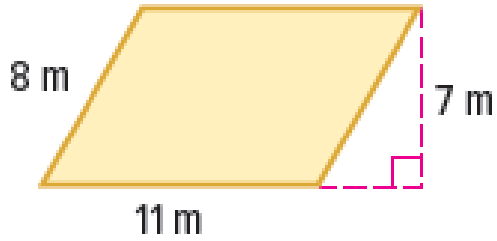
12 m²



$A = bh$

$A = 10 \times 5 =$

50 m²



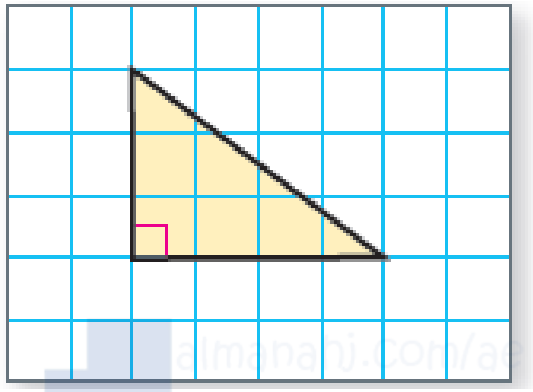
$A = bh$

$A = 11 \times 7 =$

77 m²

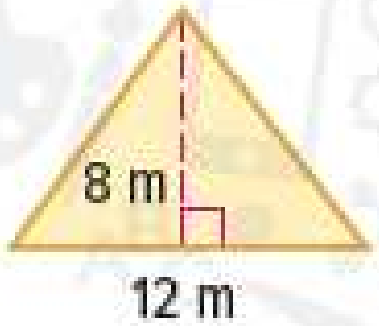
إيجاد مساحة المثلث القائم.	1 - 3	670
Find the area of the right triangle.	1 - 3	

Find the area of each triangle.



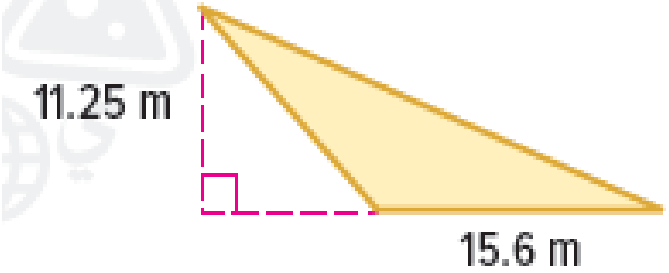
$$A = \frac{bh}{2} = \frac{4 \times 3}{2} =$$

6 m²



$$A = \frac{bh}{2} = \frac{12 \times 8}{2} =$$

48 m²

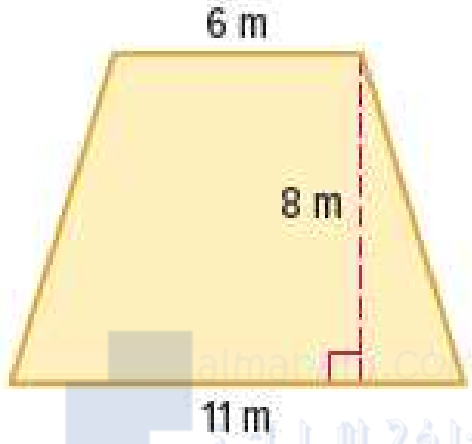


$$A = \frac{bh}{2} = \frac{15.6 \times 11.25}{2} =$$

87.75 m²

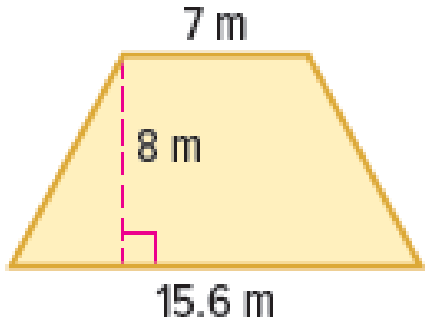
إيجاد مساحة شبه المنحرف.	1 - 2	682
Find the area of the trapizoid.	1 - 2	

Find the area of each trapezoid. Round to the nearest tenth if necessary.



$$A = \frac{h(b1+b2)}{2} = \frac{8(11+6)}{2} =$$

76 m²



$$A = \frac{h(b1+b2)}{2} = \frac{8(7+15.6)}{2} =$$

90.4 m²

Dscribe the effect of change the dimensions on area.

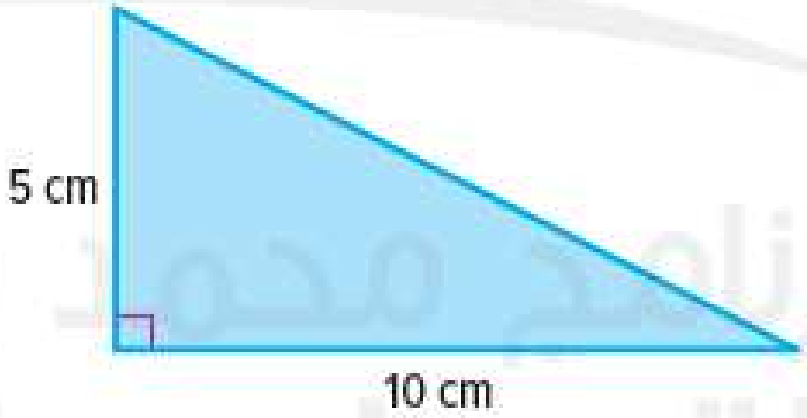
Examples 2 , b

2. **The side lengths of the triangle at the right are multiplied by 5. What effect would this have on the area? Justify your answer.**

The dimensions are 5 times greater.

original area: $\frac{1}{2} \cdot 2 \cdot 1 = 1\ \text{cm}^2$

new area: $\frac{1}{2} \cdot 10 \cdot 5 = 25\ \text{cm}^2$



compare areas:
$25\ \text{cm}^2 \div 1\ \text{cm}^2 = 25$ or 5^2

So, the area is 5^2 or 25 times the area of the original figure.

Dscribe the effect of change the dimensions on area.

Examples 2 , b

b. A rectangle measures 2 meters by 4 meters. Suppose the side lengths are multiplied by 2.5. What effect would this have on the area? Justify your answer.

Original Area= $l \times w = 2 \times 4 = 8\ m^2$

New Area= $2.5^2 \times 8 = 50\ m^2$

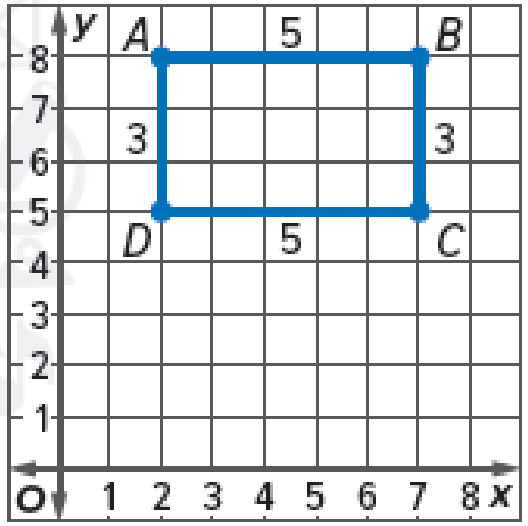
استخدام إحداثيات شكل لإيجاد أطوال أضلاعه.

Use the coordinates of a figure to find its dimensions.

مثال(1 ، 2)

Examples (1 , 2)

1. **A rectangle has vertices *A*(2, 8), *B*(7, 8), *C*(7, 5), and *D*(2, 5). Use the coordinates to find the length of each side. Then find the perimeter of the rectangle.**



Width: Find the length of the horizontal lines.

$\overline{AB}$ is 5 units long. $\overline{CD}$ is 5 units long.

Length: Find the length of the vertical lines.

$\overline{BC}$ is 3 units long. $\overline{DA}$ is 3 units long.

Add the lengths of each side to find the perimeter.

$5 + 5 + 3 + 3 = 16$ units

So, rectangle *ABCD* has a perimeter of 16 units.

2. Rectangle *ABCD* has vertices *A*(2, 1), *B*(2, 5), *C*(4, 5), and *D*(4, 1). Use the coordinates to find the length of each side. Then find the perimeter of the rectangle.

Width: Subtract *y*-coordinates.

AB: $5 - 1 = 4$ units *CD*: $5 - 1 = 4$ units

Length: Subtract *x*-coordinates.

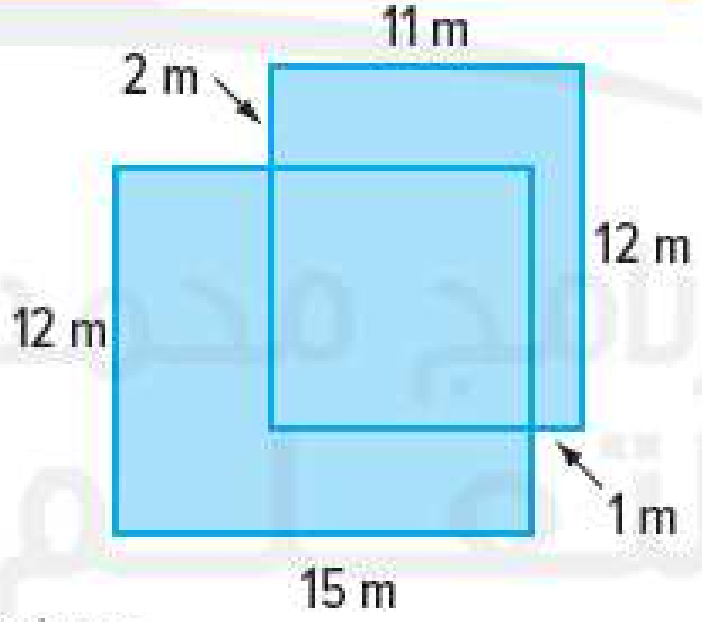
AD: $4 - 2 = 2$ units *BC*: $4 - 2 = 2$ units

Add the lengths of each side to find the perimeter.

$4 + 2 + 4 + 2 = 12$ units

Example

3. Find the area of the figure at the right.



Rectangle: 11 × 12 or 132

Rectangle: 15 × 12 or 180

The sum of the areas: 132 + 180 or 312 m^2

Overlapping area: 10 × 10 or 100 m^2

Subtract the overlapping area. 312 − 100 = 212 m^2

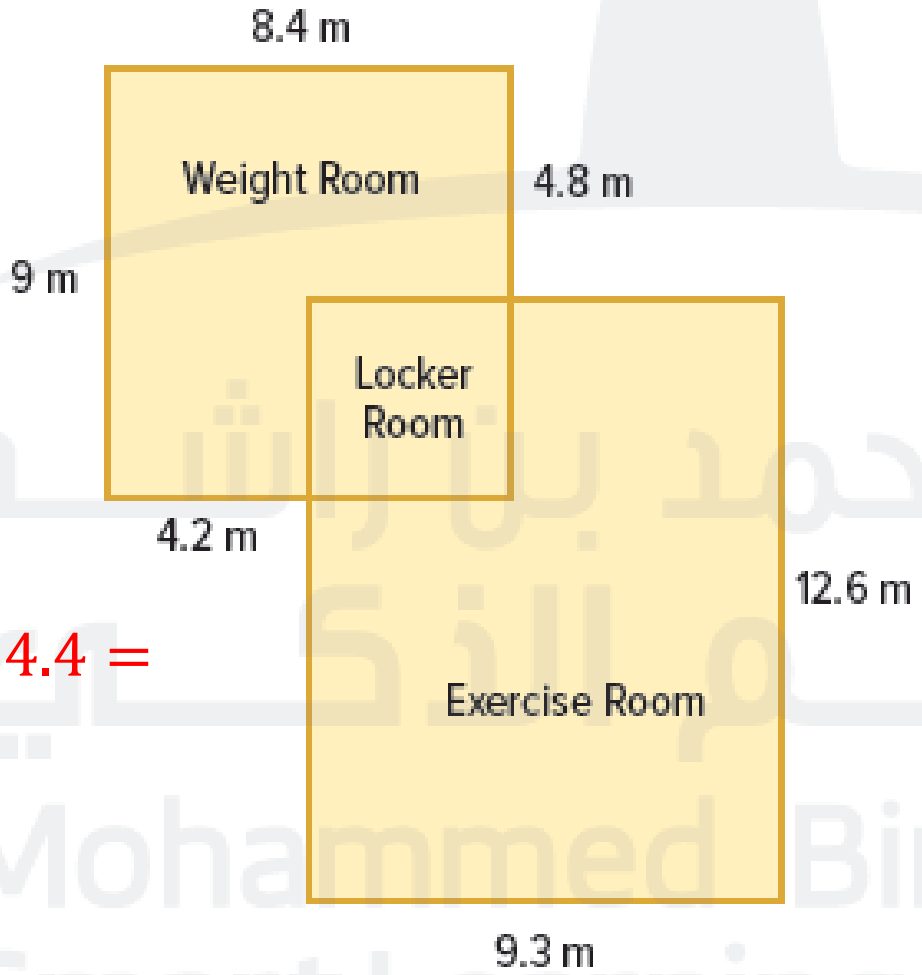
So, the area of the figure is 212 square meters.

إيجاد مساحة الأشكال المركبة.

Find the area of composite figures.

2 / 2

2. Finn Fitness has an entrance to the locker room from both the exercise room and the weight room. What is the total area of Finn Fitness? (Examples 3 and 4)



$$A = 9 \times 8.4 + 9.3 \times 12.6 - 4.2 \times 4.4 =$$

175.14 m²

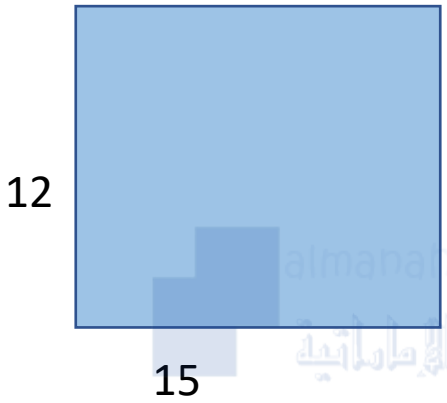
إيجاد مساحة الأشكال المركبة.

Find the area of composite figures.

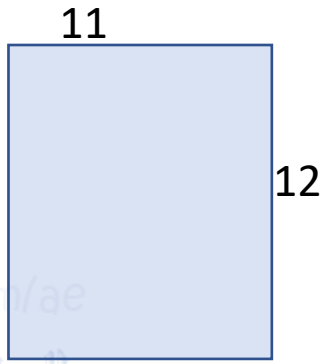
2

2

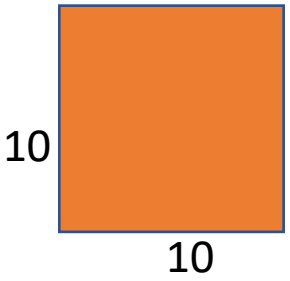
Find the area of the figure at the right.



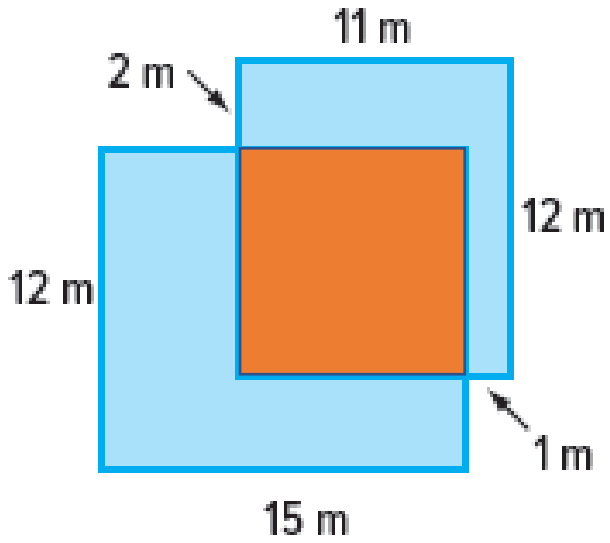
A= 12×15= 180



A= 12×11= 132



A= 10×10= 100



$$A = 15 \times 12 + 11 \times 12 - 10 \times 10 = 212\ m^2$$

Pag: 714

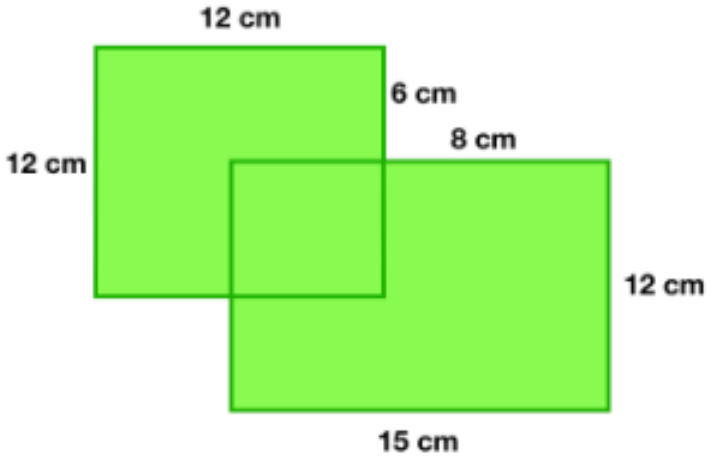
إيجاد مساحة الأشكال المركبة.

Find the area of composite figures.

2

2

Find the area of the given figure.



$$A = 12 \times 12 + 12 \times 15 - 6 \times 7 = 282\text{cm}^2$$

أن يجد حجم منشور مستطيل القاعدة.

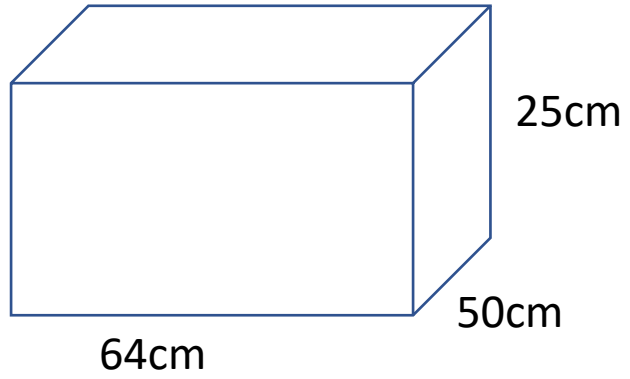
Find the volume of the rectangular prism.

1
1

1. A rectangular kitchen sink is 64 centimeters long, 50 centimeters wide, and 25 centimeters deep. Find the amount of water that can be contained in the sink. (Examples 1 and 2)

$$volume = 64 \times 50 \times 25 = 80,000\ cm^3$$

$$amount\ of\ water = 80,000 \div 1,000 = 80\ l$$



أن يجد حجم منشور مستطيل القاعدة.

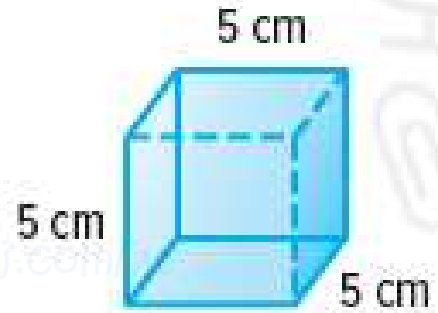
Find the volume of the rectangular prism.

1
1

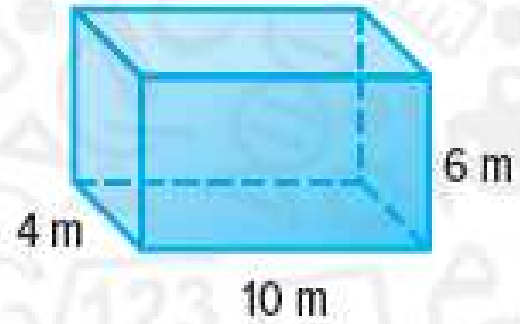
736

1. Find the volume of the rectangular prism.

a.



b.



125 cm^3

240 m^3

إيجاد حجم منشور ثلاثي.

Find the volume of the tringular prism.

a, b

a, b

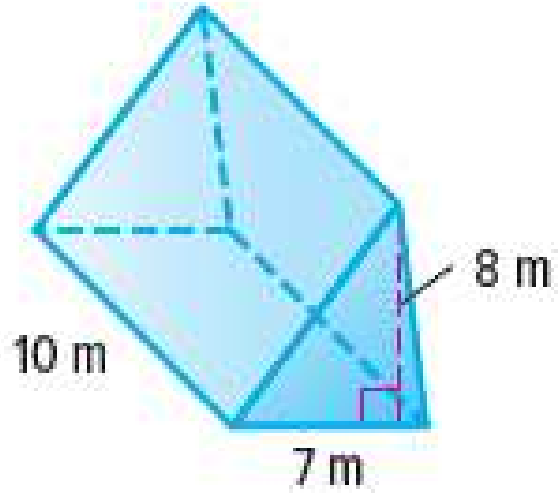
742

Find the volume of the triangular prism.

a.

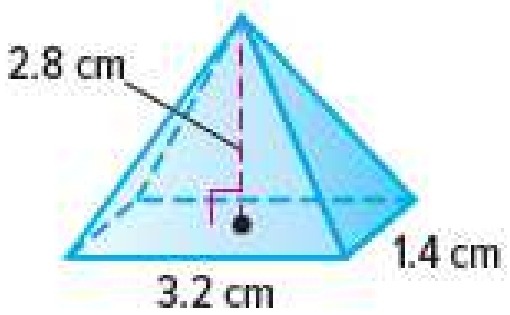
$$volume = \frac{3.5 \times 4 \times 7}{2} = 49\ m^3$$

b.



$$volume = \frac{7 \times 8 \times 10}{2} = 280\ m^3$$

1. Find the volume of the pyramid. Round to the nearest tenth.



$$volume = \frac{1}{3} \times 3.2 \times 1.4 \times 2.8 = 4.2\ cm^3$$

a. Find the volume of a pyramid that has a height of 9 centimeters and a rectangular base with a length of 7 centimeters and a width of 3 centimeters.

$$volume = \frac{1}{3} \times 7 \times 3 \times 9 = 63\ cm^3$$

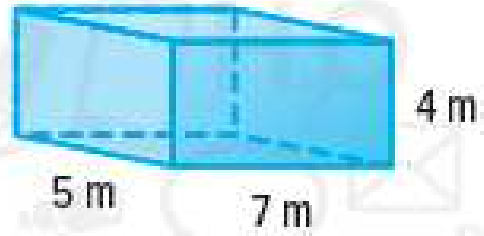
إيجاد المساحة السطحية للمنشور المستطيل القاعدة.

مثال 2 ، 3

Find the surface area of the rectangular prism .

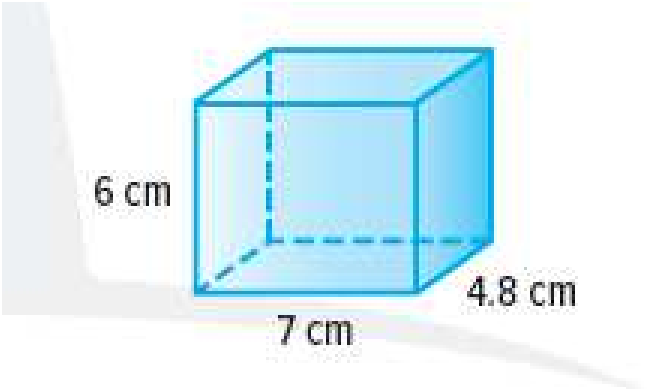
Examples 2 , 3

2. Find the surface area of the rectangular prism.



$$S.A = 2 \times (7 \times 4 + 4 \times 5 + 5 \times 7)$$
$$= 166\ m^2$$

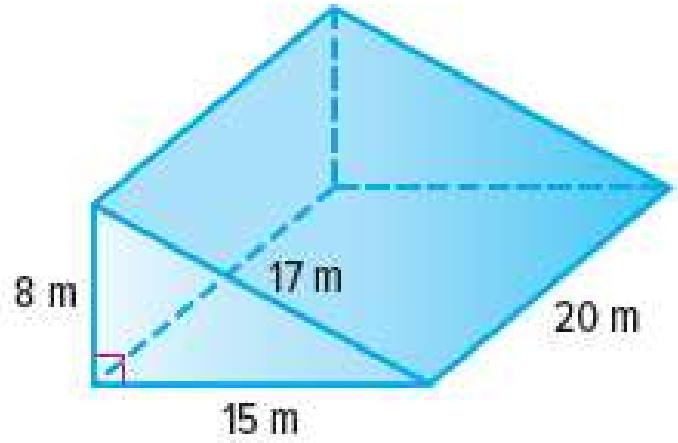
3. Find the surface area of the rectangular prism.

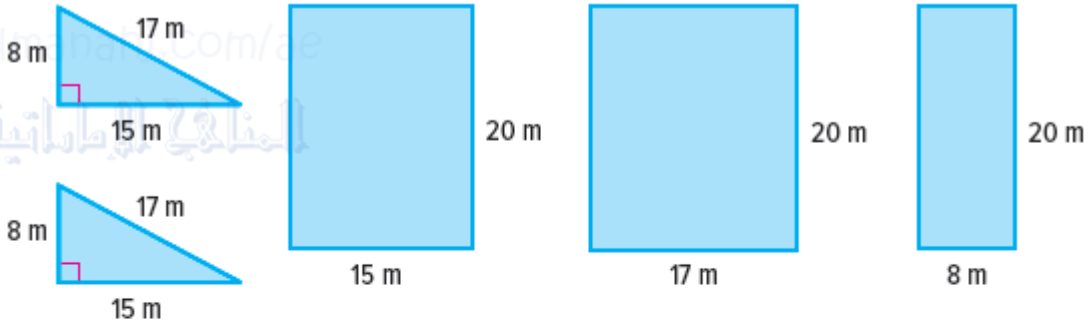


$$S.A = 2 \times (7 \times 4.8 + 4.8 \times 6 + 6 \times 7)$$
$$= 208.8\ cm^2$$

2. Find the surface area of the triangular prism.

Find the area of each face and add. For this prism, each rectangular face has a different area.





area of each triangular base: $\frac{1}{2}(15)(8) = 60$

area of the rectangular faces: $15(20) = 300$

$17(20) = 340$

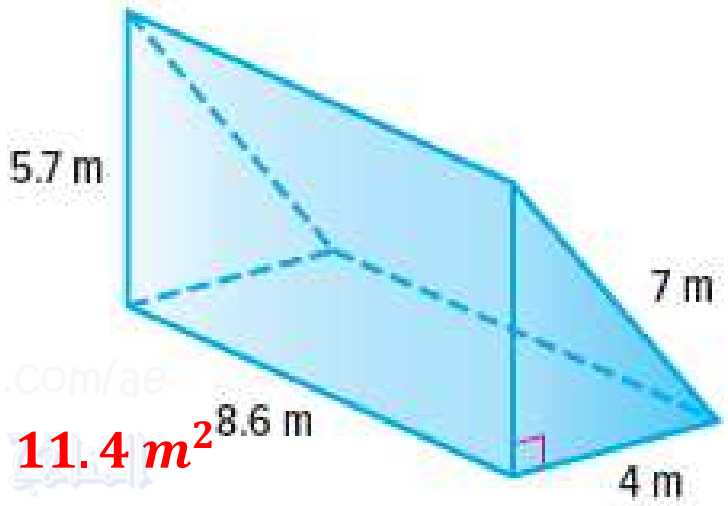
$8(20) = 160$

Add to find the surface area.

$60 + 60 + 300 + 340 + 160 = 920$ square meters

Find the surface area of each triangular prism.

b.



$$A_1 = \frac{4 \times 5.7}{2} = 11.4\ m^2$$

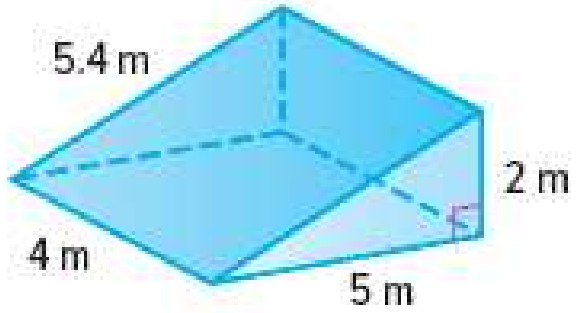
$$A_2 = 4 \times 8.6 = 34.4\ m^2$$

$$A_3 = 7 \times 8.6 = 60.2\ m^2$$

$$A_3 = 5.7 \times 8.6 = 49.02\ m^2$$

$$\text{Total Area} = 11.4 \times 2 + 34.4 + 60.2 + 49.02 = 166.42\ m^2$$

c.



$$S.A = P \times H + 2B$$

$$P = 5 + 2 + 5.4 = 12.4\ m$$

$$B = \frac{2 \times 5}{2} = 5\ m^2$$

$$H = 4\ m$$

$$S.A = 12.4 \times 4 + 2 \times 5 = 59.6\ m^2$$

أوجد المساحة الكلية لسطح الهرم المربع القاعدة .

Find the total surface area of the square pyramid.

مثال 1 ، a

Examples 1 , a

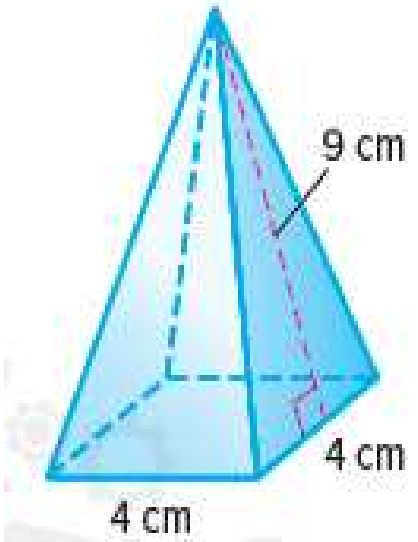
1. **Find the total surface area of the pyramid. Round to the nearest tenth.**

$$SA. = B + \frac{1}{2}P\ell$$ Surface area of a pyramid

$$SA. = 16 + \frac{1}{2}(16 \cdot 9)$$ $B = 4 \cdot 4$, $P = 4 \cdot 4$ or 16, $\ell = 9$

$$SA. = 88$$ Simplify.

The surface area is 88 square centimeters.



أوجد المساحة الكلية لسطح الهرم المربع القاعدة .

Find the total surface area of the square pyramid.

مثال 1 ، a

Examples 1 , a

a. Find the surface area of a square pyramid that has a slant height of 8 centimeters and a base length of 5 centimeters.

$$S.A = \frac{1}{2} \times P \times l + B$$

$$P = 4 \times 5 = 20\ cm$$

$$B = 5 \times 5 = 25\ cm^2$$

$$l = 8\ cm$$

$$S.A = \frac{1}{2} \times 20 \times 8 + 25 = 105\ cm^2$$

أوجد المساحة الكلية لسطح الهرم المربع القاعدة .

Find the total surface area of the square pyramid.

مثال 1 ، a

Examples 1 , a

Find the total surface area of the pyramid.

أوجد مساحة سطح الهرم.

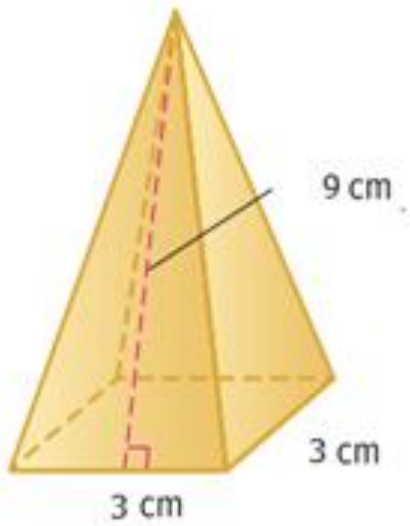
$$S.A = \frac{1}{2} \times P \times l + B$$

$$P = 4 \times 3 = 12\ cm$$

$$B = 3 \times 3 = 9\ cm^2$$

$$l = 9\ cm$$

$$S.A = \frac{1}{2} \times 12\ \times 9 + 9 = 63\ cm^2$$



أوجد حجم الشكل المركب .

Find the volume of the composite figure .

مثال 1, a

Examples 1 , a

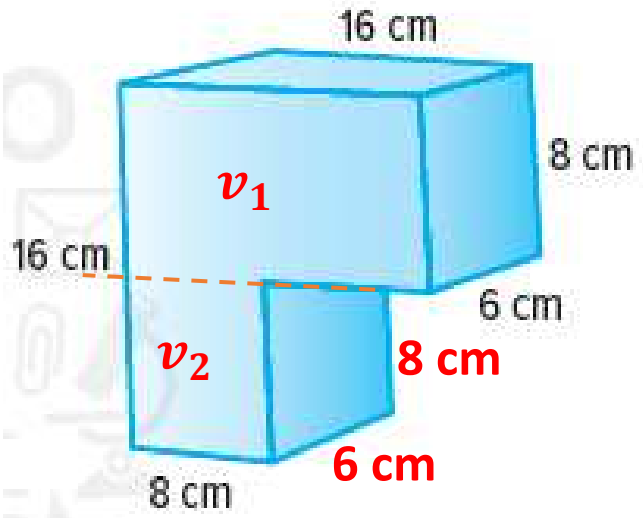
800

1. Find the volume of the composite figure.

$v_1 = 8 \times 6 \times 8 = 384\ cm^3$

$v_2 = 16 \times 6 \times 8 = 768\ cm^3$

$volume = 384 + 768 = 1152\ cm^3$



أوجد حجم الشكل المركب .

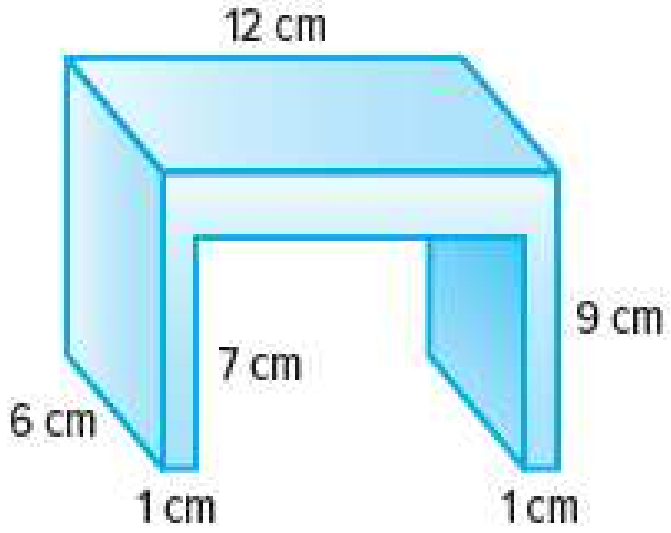
Find the volume of the composite figure .

مثال 1 ,a

Examples 1 , a

800

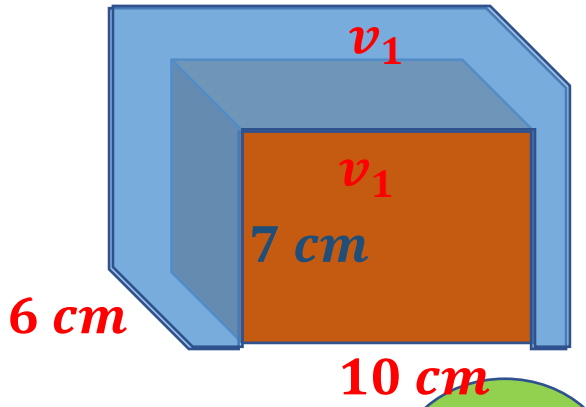
a. Find the volume of the composite figure.



$v_1 = 6 \times 12 \times 9 = 648\ cm^3$

$v_2 = 10 \times 6 \times 7 = 420\ cm^3$

$volume = 648 - 420 = 228\ cm^3$



Pag: 800

أوجد حجم الشكل المركب .

Find the volume of the composite figure .

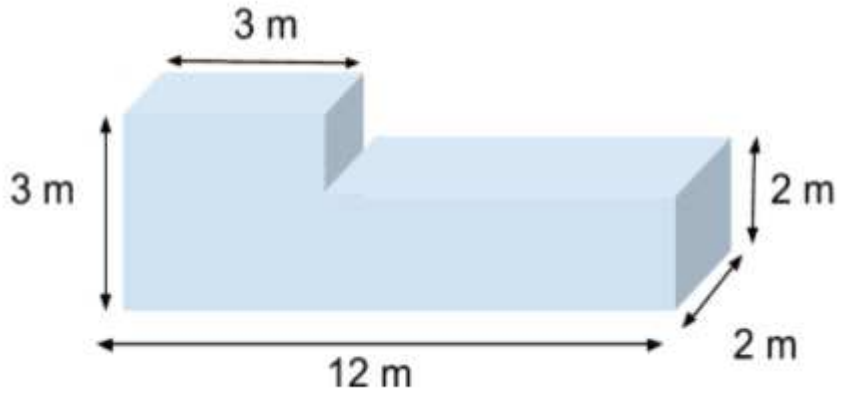
مثال 1, a

Examples 1 , a

800

1. Find the volume of the composite figure.

$$v = 3 \times 3 \times 2 + 9 \times 2 \times 2 = 54\ cm^3$$



أوجد حجم الشكل المركب .

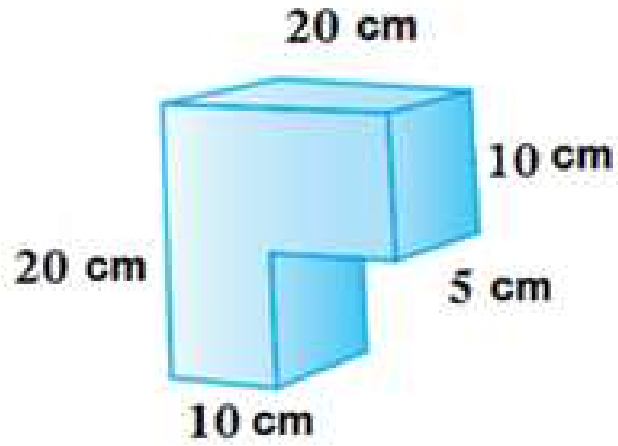
Find the volume of the composite figure .

مثال 1 ,a

Examples 1 , a

800

Find the volume of the composite figure shown below.



$$v = 20 \times 10 \times 5 + 10 \times 10 \times 5 = 1500\ cm^3$$

أن يحسب المتوسط الحسابي.

To find the mean.

مثال 1, a

Examples 1 , a

a. The table shows the number of CDs a group of friends bought. Find the mean number of CDs the group bought.

Number of CDs Purchased		
3	4	6
0	2	

$$mean = \frac{3 + 4 + 6 + 0 + 2}{5} = 3$$

أيجاد الوسيط.

Find the median.

a , (2 ,1 مثال)

(Examples 1 , 2), a

1. The table shows the number of monkeys at eleven different zoos. Find the median and mode of the data.

Number of Monkeys					
28	36	18	25	12	44
18	42	34	16	30	

Order the data from least to greatest.

Median 12, 16, 18, 18, 25, 28, 30, 34, 36, 42, 44 — 28 is in the center.

Mode 12, 16, 18, 18, 25, 28, 30, 34, 36, 42, 44 — 18 occurs most often.

The median is 28 monkeys. The mode is 18 monkeys.

أيجاد الوسيط.

Find the median.

a , (2 ,1 مثال)

(Examples 1 , 2), a

2. **Hamdah recorded her scores on 7 tests in the table. Find the median and mode of the data.**

Test Scores						
93	88	94	93	85	97	90

Order the data from least to greatest.

85, 88, 90, 93, 93, 94, 97

Circle the number in the center. This is the median.

Circle the most frequently occurring numbers. This value is the mode.

The median is a score of **93**. The mode is a score of **93**.

أيجاد الوسيط.

Find the median.

(مثال 1 , 2 ,a)

(Examples 1 , 2), a

a. The list shows the number of stories in the 11 tallest buildings in Springfield. Find the median and mode of the data.

40, 38, 40, 37, 33, 30, 20, 24, 21, 17, 19

17, 19, 20, 21, 24, 30, 33, 37, 38, 40, 40

Median=30

Mode= 40

1. Find the measures of variation for the data.

Range 113 − 2 or 111 km/h

Quartiles Order the numbers.

Q_1 median = 44 Q_3

2 13 40 48 80 113

Interquartile Range 80 − 13 or 67 $Q_3 - Q_1$

The range is 111, the median is 44, the first quartile is 13, the third quartile is 80, and the IQR is 67.

Animal	Speed (km/h)
cheetah	113
lion	80
cat	48
elephant	40
mouse	13
spider	2

a. Determine the measures of variation for the data 64, 61, 67, 59, 60, 58, 57, 71, 56, and 62.

Q1 Median Q3

56, 57, 58, 59, 60, 61, 62, 64, 67, 71

$$Range = 71 - 56 = 15$$

IQR=Q3 –Q1 = 64-58=6

***the range is* 15, *the median is* 60.5, *the first* quartile is 58, the third quartile 64, and the IQR is 6**

أوجد متوسط الانحراف المطلق للقيم.

Find the mean absolute deviation of the data.

مثال 1, a

Examples 1 , a

1. The table shows the maximum speeds of eight roller coasters. Find the mean absolute deviation of the set of data. Describe what the mean absolute deviation represents.

Maximum Speeds of Roller Coasters (km/h)			
58	88	40	60
72	66	80	48

$$mean = \frac{58 + 88 + 40 + 60 + 72 + 66 + 80 + 48}{8} = 64$$

$$MAD = \frac{6 + 24 + 24 + 4 + 8 + 2 + 16 + 16}{8} = 12.5$$

The mean absolute deviation is 12.5. This means that the average distance each data value is from the mean is 12.5 kilometers per hour.

$|58 - 64| = 6$

$|88 - 64| = 24$

$|40 - 64| = 24$

$|60 - 64| = 4$

$|72 - 64| = 8$

$|66 - 64| = 2$

$|80 - 64| = 16$

$|48 - 64| = 16$

أوجد متوسط الانحراف المطلق للقيم.

Find the mean absolute deviation of the data.

. The table shows speeds of ten birds. Find the mean absolute deviation of the data. Round to the nearest hundredth. Describe what the mean absolute deviation represents.

Speeds of Ten Birds (km/h)				
88	77	65	70	65
72	95	80	106	68

$$mean = \frac{88 + 77 + 65 + 70 + 65 + 72 + 95 + 80 + 106 + 68}{10} = 78.6$$

$$MAD = \frac{9.4 + 1.6 + 13.6 + 8.6 + 13.6 + 6.6 + 16.4 + 1.4 + 27.4 + 10.6}{10} = 10.92$$

The mean absolute deviation is 10.92. ***This means that the average distance*** each data value is from the mean is 10.92 km/h

$$|88 - 78.6| = 9.4$$
$$|77 - 78.6| = 1.6$$
$$|65 - 78.6| = 13.6$$
$$|70 - 78.6| = 8.6$$
$$|65 - 78.6| = 13.6$$
$$|72 - 78.6| = 6.6$$
$$|95 - 78.6| = 16.4$$
$$|80 - 78.6| = 1.4$$
$$|106 - 78.6| = 27.4$$
$$|68 - 78.6| = 10.6$$

Examples

1. The table shows the number of medals won by the U.S. Which measure of center best represents the data? Then find the measure of center.

Year	1992	1996	2000	2004	2008
Number of Medals	112	101	97	103	110

Since the set of data has no extreme values or numbers that are repeated, the mean would best represent the data.

Mean $\frac{112 + 101 + 97 + 103 + 110}{5} = \frac{523}{5}$ or $104\frac{3}{5}$

The mean number of medals won is $104\frac{3}{5}$ medals.

2. The table shows a cooking pot's water temperature over seven minutes. Which measure of center best represents the data? Then find the measure of center.

Water Temperature (°C)
82 85 82 81 82 82 78

the best measure of cener represent the data is mode

because data have many repeated values

$mode = 82$

Pag: 862,863

ما مقياس التمركز الأفضل في تمثيل البيانات؟

Which measure of center best represents the data?

مثال 1، 2 ، (a)، مثال 3، 4، 5

Examples 1 , 2, (a), Example 3, 4, 5

a. The prices of several DVDs are AED 22.50, AED 21.95, AED 25.00, AED 21.95, AED 19.95, AED 21.95, and AED 21.50. Which measure of center best represents the data? Justify your selection. Then find the measure of center.

19. 95 , 21.50 , 21.95 , 21.95 , 21.95 , 22.50 , 25.00

the best measure of cener represent the data is mode

because data have many repeated values

$mode = 21.95$

Pag:
862,863

Examples

The table shows average life spans of some animals.

3. **Identify the outlier in the data set.**

Compared to the other values, 200 years is extremely high. So, it is an outlier.

Average Life Span	
Animal	**Life Span (years)**
African elephant	35
Bottlenose dolphin	30
Chimpanzee	50
Galapagos tortoise	200
Gorilla	30
Gray whale	70
Horse	20

Examples

The table shows average life spans of some animals.

4. Determine how the outlier affects the mean, median, and mode of the data.

Average Life Span	
Animal	**Life Span (years)**
African elephant	35
Bottlenose dolphin	30
Chimpanzee	50
Galapagos tortoise	200
Gorilla	30
Gray whale	70
Horse	20

Find the mean, median, and mode with and without the outlier.

With the outlier

Pag: 862,863

ما مقياس التمركز الأفضل في تمثيل البيانات؟

مثال 1، 2 ، (a)، مثال 3، 4، 5

Which measure of center best represents the data?

Examples 1 , 2, (a), Example 3, 4, 5

With the outlier

Mean $\frac{35 + 30 + 50 + 200 + 30 + 70 + 20}{7} \approx 62$

Median 35

Mode 30

Without the outlier

Mean $\frac{35 + 30 + 50 + 30 + 70 + 20}{6} \approx 39$

Median 32.5

Mode 30

The mean life span decreased by 62 − 39 or 23 years. The median life span decreased by 35 − 32.5 or 2.5 years. The mode did not change.

Average Life Span

Animal	Life Span (years)
African elephant	35
Bottlenose dolphin	30
Chimpanzee	50
Galapagos tortoise	200
Gorilla	30
Gray whale	70
Horse	20

Pag: 862,863

5. **Which measure of center best describes the data with and without the outlier? Justify your selection.**

Average Life Span	
Animal	**Life Span (years)**
African elephant	35
Bottlenose dolphin	30
Chimpanzee	50
Galapagos tortoise	200
Gorilla	30
Gray whale	70
Horse	20

The mean was affected the most with the outlier. The median life span changed very little with and without the outlier, so it best describes the data in both cases. The mode does not describe the data very well since there were only two repeated numbers.

ارسم مخططا للنقاط المجمعة للبيانات.

Make a line plot of the data.

مثال 1, a

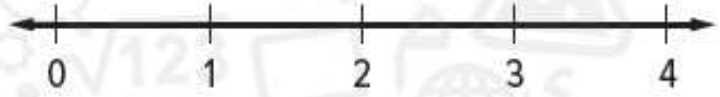
Examples 1 , a

Example

1. Yasmin asked her class how many pets they had. The results are shown in the table. Make a line plot of the data. Then describe the data presented in the graph.

Number of Pets					
3	2	2	1	3	1
0	1	0	2	3	4
0	1	1	4	2	2
1	2	2	3	0	2

Step 1 Draw and label a number line.

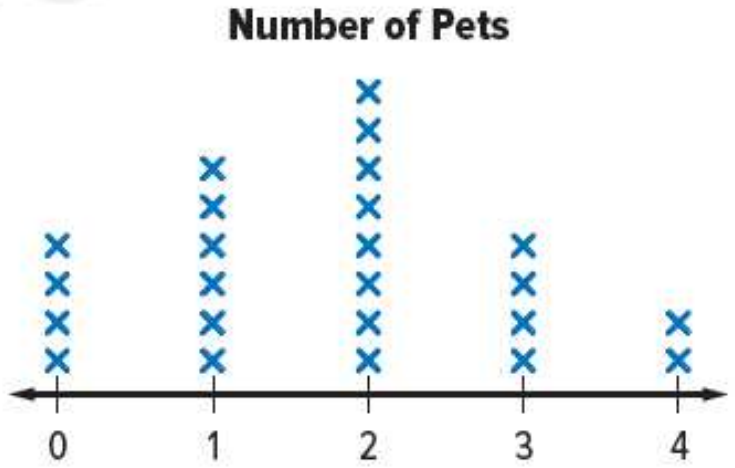


Example

1. Yasmin asked her class how many pets they had. The results are shown in the table. Make a line plot of the data. Then describe the data presented in the graph.

Number of Pets					
3	2	2	1	3	1
0	1	0	2	3	4
0	1	1	4	2	2
1	2	2	3	0	2

Step 2 Place as many Xs above each number as there are responses for that number. Include a title.



Example

1. Yasmin asked her class how many pets they had. The results are shown in the table. Make a line plot of the data. Then describe the data presented in the graph.

Number of Pets					
3	2	2	1	3	1
0	1	0	2	3	4
0	1	1	4	2	2
1	2	2	3	0	2

Step 3 Describe the data. 24 students responded to the question. No one has more than 4 pets. Four students have no pets. The response given most is 2 pets. This represents the mode.

أوجد الوسيط للبيانات الممثلة بالنقاط المجمعة.

مثال 2, b

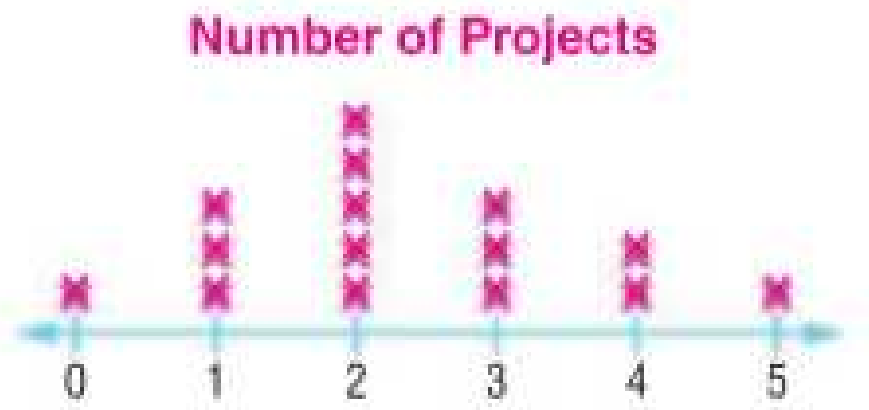
881

Find the median of the data for data represented in line plot.

Examples 2 , b

a. Fahed asked the members of his 4-H club how many projects they were taking. The results are shown in the table. Make a line plot of the data. Then describe the data in the graph.

Number of Projects				
2	4	3	3	1
0	5	4	2	2
1	3	2	1	2



15 members responded.
No one is taking more than 5 projects.
1 member is not taking any projects.
The response given most is 2 projects.
This represents the mode.

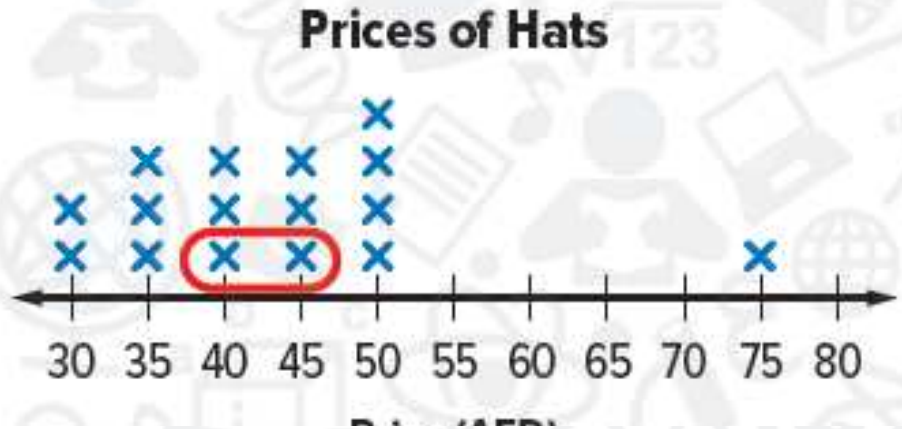
أوجد المنوال للبيانات الممثلة بالنقاط المجمعة.

مثال 2, b

Find the mode of the data for data represented in line plot.

Examples 2 , b

The line plot shows the prices of hats.



2. Find the median and mode of the data. Then describe the data using them.

The median = 42.5

The two middle numbers, shown on the line plot, are 40 and 45. So, the median is AED 42.50. This means that half of the hats cost more than AED 42.50 and half cost less than AED 42.50.

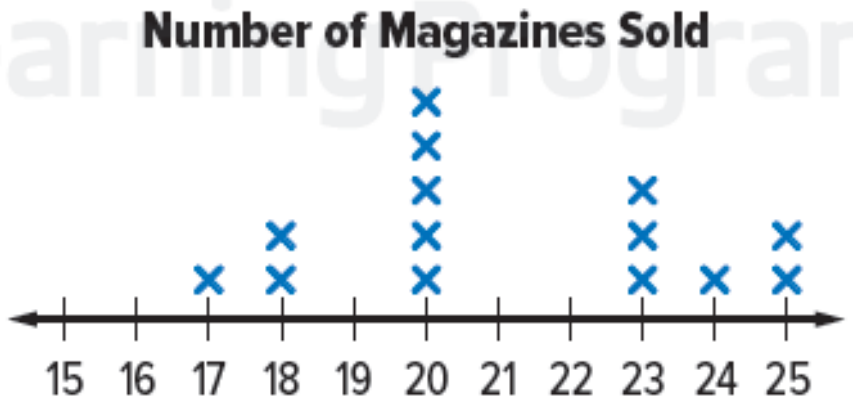
أوجد المنوال للبيانات الممثلة بالنقاط المجمعة.

مثال 2, b

Find the mode of the data for data represented in line plot.

Examples 2 , b

b. The line plot shows the number of magazines each member of the student council sold. Find the median, mode, range, and any outliers of the data. Then describe the data using them.



The median = 20

The mode =20

Range =8

More member sold 20 magazines

And there are no outliers

تحليل المدرجات التكرارية.

Analyze histograms..

مثال 1, a

Examples 1 , a

Example

1. Refer to the histogram above. Describe the histogram. How many remote control airplanes cost at least AED 100? $2 + 1 = 3$

a. Refer to the histogram above. How many remote control airplanes cost less than AED 75? $7 + 9 = 16$

أن يمثل مجموعة من البيانات بمخطط الصندوق ذي العارضين.

Represent a set of data by a box plot.

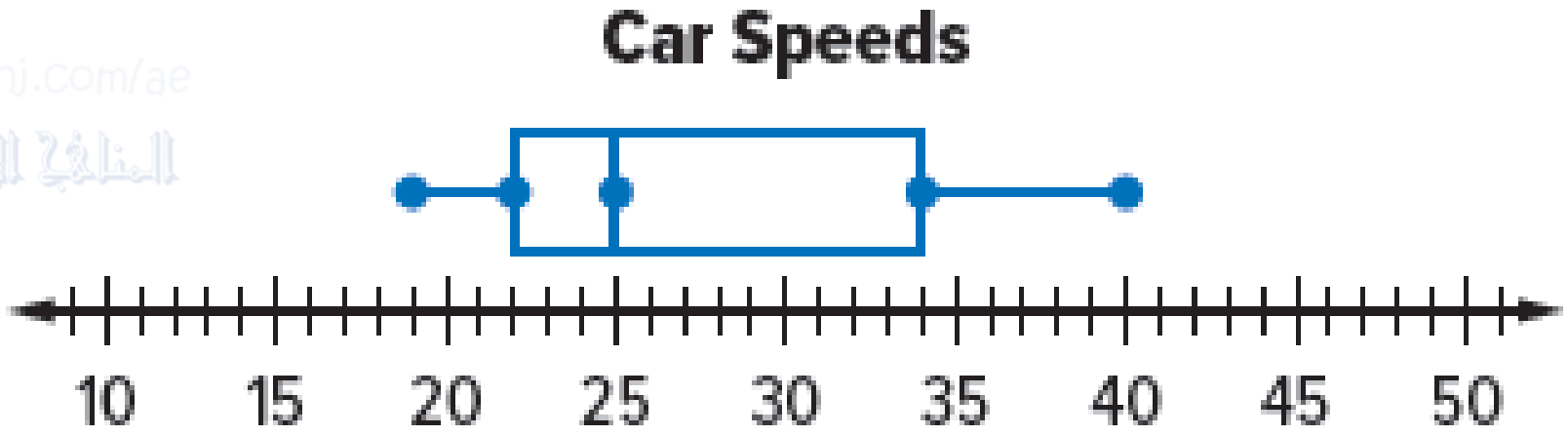
مثال 1, a

Examples 1 , a

896, 897

1. Draw a box plot of the car speed data.

25 35 27 22 34 40 20 19 23 25 30



Pag: 896, 897

أن يمثل مجموعة من البيانات بمخطط الصندوق ذي العارضين.

Represent a set of data by a box plot.

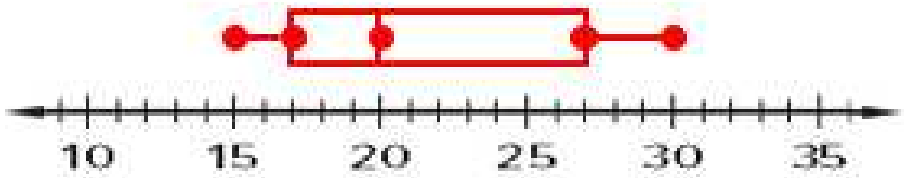
مثال 1, a

Examples 1 , a

a. Draw a box plot of the data set below.

{AED 20, AED 25, AED 22, AED 30, AED 15, AED 18, AED 20, AED 17, AED 30, AED 27, AED 15}

15 , 15 , 17 , 18 , 20 , 20 , 22 , 25 , 27 , 30 , 30



$lower\ extreme = 15$

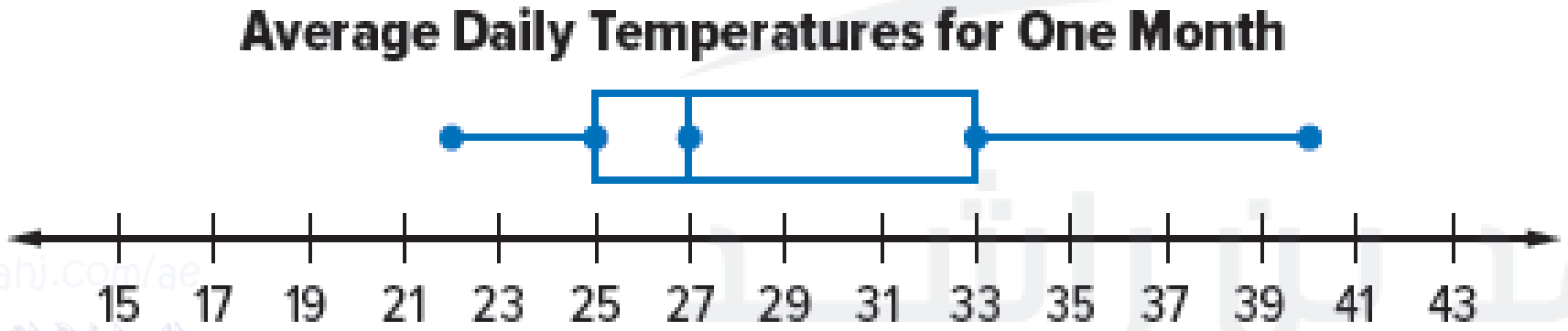
$median = 20$

$Q_1 = 17$

$Q_3 = 27$

$upper\ extreme = 30$

2. Find the median and the measures of variability for the box plot shown. Then describe the data.



The median = 27

Q1 : 25 Q3 : 33 Range : 18 IQR : 8

The right half of the data is more spread out and the left half is more concentrated. The median is close to the Q1. There are no outliers

Thankyou