

سلسلة الطارق في الرياضيات



تم تحميل هذا الملف من موقع المناهج الإماراتية

موقع المناهج ← المناهج الإماراتية ← الصف السادس ← رياضيات ← الفصل الثالث ← ملفات متنوعة ← الملف

تاريخ إضافة الملف على موقع المناهج: 2026-06-22 00:06:30

ملفات اكتب للمعلم اكتب للطالب | اختبارات الكترونية | اختبارات | حلول | عروض بوربوينت | أوراق عمل
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المزيد من مادة
رياضيات:

إعداد: طارق علي

التواصل الاجتماعي بحسب الصف السادس



صفحة المناهج
الإماراتية على
فيسبوك

الرياضيات

اللغة الانجليزية

اللغة العربية

التربية الاسلامية

المواد على تلغرام

المزيد من الملفات بحسب الصف السادس والمادة رياضيات في الفصل الثالث

ملزمة ريفيل وفق الهيكل

1

اختبار تجريبي محاكي للاختبار الوزاري

2

حقيقتي التدريبية: كراسة تدريبية

3

أسئلة متوقعة للامتحان 2026م

4

مراجعة الوحدة السادسة (التعابير)

5

الطارق

سلسلة

الرياضيات

هيكل 6 عام ريفيل 2026

منصة طارق أكاديمي للرياضيات

Tarek Academy

صف سادس (عام ريفيل)

الطارق

أستاذ الرياضيات

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EX.1**Q1-MCQ 7.1**

Joe bought an iced coffee for \$2.95. The total cost of his breakfast c is equal to the cost of his food f plus \$2.95. The rule is $f + 2.95$.

Make a table using the rule to find the total cost of Joe's breakfast if his food costs \$5.50, \$7.75, or \$10.00.

Use the rule to complete the table. Then choose the correct output values.

Input Cost of Food (\$), f	Rule $f + 2.95$	Output Total Cost (\$), c
5.50	$5.50 + 2.95$	8.45
7.75	$7.75 + 2.95$	10.70
10.00	$10.00 + 2.95$	12.95

- a.
- b.
- c.
- d.

Repeat this process to complete the table for the other two output values, \$3.00 and \$4.25.

Input Number of Games Played, g	Rule $0.25g$	Output Total Cost (\$), c	A	12	17
7	$0.25 \cdot 7$	1.75	B	12	16
12	$0.25 \cdot \text{12}$	3.00	C	10	17
17	$0.25 \cdot \text{17}$	4.25	D	13	17

What numbers correctly complete the table?



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1. Sadie ordered a pizza and had it delivered. The delivery fee is \$3.50. The total cost c is equal to the cost of her pizza p plus \$3.50. The rule is $p + 3.50$. Complete the table using the rule to find the total cost if her pizza costs \$9.75, \$12.00, or \$14.50.

Choose the correct set of outputs.

Input, Cost of Pizza (\$), p	Rule $p + 3.50$	Output, Total Cost (\$), c
9.75	$9.75 + 3.50$	13.25
12.00	$12.00 + 3.50$	15.50
14.50	$14.50 + 3.50$	18.00

A.	13.25	15.50	18.00
B.	12.25	14.50	17.50
C.	12.75	15.00	17.75
D.	13.50	15.75	18.25

3. Miranda has a coupon for \$0.75 off any salad at a restaurant. The total cost c is equal to the cost of her salad s minus \$0.75. The rule is $c = s - 0.75$. Complete the table using the rule to find the total cost if her salad costs \$2.79, \$3.55, or \$4.25.

Which table shows the correct total cost for each salad?

Input, Cost of Salad (\$), s	Rule $c = s - 0.75$	Output, Total Cost (\$), c
2.79	$2.79 - 0.75$	2.04
3.55	$3.55 - 0.75$	2.80
4.25	$4.25 - 0.75$	3.50

Input, Cost of Salad (\$), s	Rule $c = s - 0.75$	Output, Total Cost (\$), c
2.79	$2.79 - 0.75$	2.79
3.55	$3.55 - 0.75$	3.55
4.25	$4.25 - 0.75$	4.25

Input, Cost of Salad (\$), s	Rule $c = s - 0.75$	Output, Total Cost (\$), c
2.79	$2.79 - 0.75$	3.54
3.55	$3.55 - 0.75$	4.30
4.25	$4.25 - 0.75$	5.00

Input, Cost of Salad (\$), s	Rule $c = s - 0.75$	Output, Total Cost (\$), c
2.79	$2.79 - 0.75$	2.04
3.55	$3.55 - 0.75$	2.80
4.25	$4.25 - 0.75$	3.50

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5. Each pie at a bakery costs \$9.50. The total cost c of p pies is equal to 9.50 times p . Complete the table to find the number of pies purchased if the total cost is \$19.00, \$28.50, or \$47.50.

Which table shows the correct number of pies for each total cost?

A.

Input, Number of Pies, p	Rule $9.50p$	Output, Total Cost (\$), c
2	$9.50(2)$	19.00
3	$9.50(3)$	28.50
5	$9.50(5)$	47.50

B.

Input, Number of Pies, p	Rule $9.50p$	Output, Total Cost (\$), c
1	$9.50(1)$	19.00
2	$9.50(2)$	28.50
3	$9.50(3)$	47.50

C.

Input, Number of Pies, p	Rule $9.50p$	Output, Total Cost (\$), c
2	$9.50(2)$	19.00
3	$9.50(3)$	28.50
4	$9.50(4)$	47.50

D.

Input, Number of Pies, p	Rule $9.50p$	Output, Total Cost (\$), c
1	$9.50(1)$	19.00
3	$9.50(3)$	28.50
5	$9.50(5)$	47.50

Q2-MCQ 7.2

1. The table shows the total cost c of buying t movie tickets. Which equation represents the relationship between c and t ?

A) $c = t + 7$

B) $c = 7t$

C) $c = t - 7$

D) $c = 14t$

Right left
 $c = 7t$

Number of Tickets, t	Total Cost (\$), c
1	7
2	14
3	21
4	28

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2. The table shows the total number of pencils p in b boxes. Which equation represents the relationship between p and b ?

- A) $p = b + 12$
 B) $p = 12b$
 C) $p = b - 12$
 D) $p = 24b$

$$p = 12b$$

Number of Boxes, b	Total Number of Pencils, p
1	12
2	24
3	36
4	48

3. The table shows the total cost of bowling any number of games and renting bowling shoes. Which two-step equation represents the total cost c for bowling g games?

- A) $c = 4g + 2$
 B) $c = 6g$
 C) $c = 4g - 2$
 D) $c = 2g + 4$

$$c = 4g + 2$$

Number of Games, g	Total Cost (\$), c
1	6
2	10
3	14
4	18

$$c = 4g + 2$$

4. The table shows the total cost of renting a canoe based on the number of hours and a one-time rental fee. Which two-step equation represents the total cost c of renting a canoe for h hours?

- A) $c = 11h + 5$
 B) $c = 16h$
 C) $c = 5h + 11$
 D) $c = 11h - 5$

$$c = 11h + 5$$

Number of Hours, h	Total Cost (\$), c
1	16
2	27
3	38
4	49

$$c = 11h + 5$$

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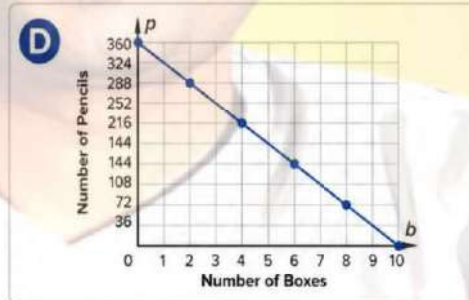
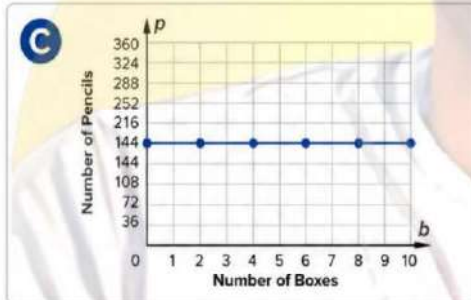
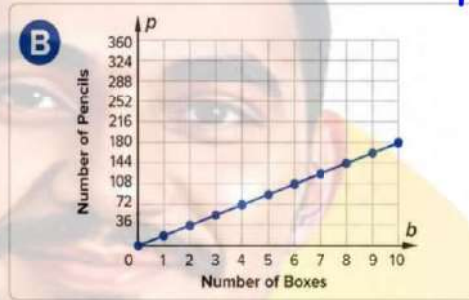
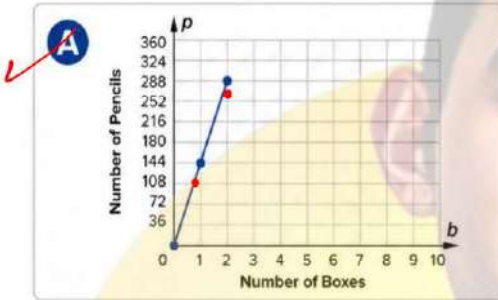


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Q3-MCQ 7.3

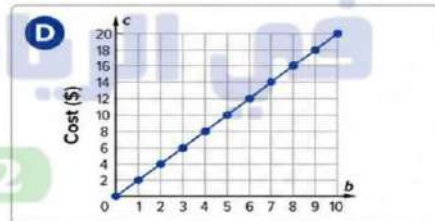
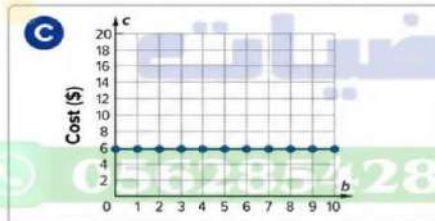
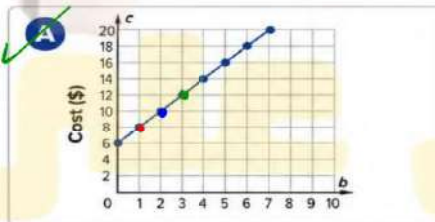
1. The equation $p = 144b$ represents the number of pencils p in b boxes. Which set of points should be plotted to graph the relationship on the coordinate plane?

$$\begin{array}{l|l} b & p \\ \hline 1 & 144 \times 1 = 144 \\ 2 & 144 \times 2 = 288 \end{array}$$



2. The equation $c = 2b + 6$ represents the total cost c of b sets of beads and one necklace string. Graph the relationship on the coordinate plane. (Example 1)

$$\begin{array}{l|l} b & c \\ \hline 1 & 2(1) + 6 = 8 \\ 2 & 2(2) + 6 = 10 \\ 3 & 2(3) + 6 = 12 \end{array}$$



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3. The graph shows the total cost c of buying one large bucket of popcorn and d large drinks. Which equation could be used to find the total cost c ?

- ☒ A) $c = 4d + 8$
☐ B) $c = 8d + 4$
☐ C) $c = 4d$
☐ D) $c = d + 8$

$$y = mx + b$$

$$C = 4d + 8 \quad 8 = \text{y-intercept}$$

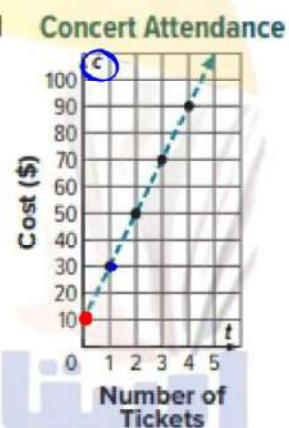


$$\begin{array}{r} 0 \overline{) 8} \\ 1 \overline{) 12} \\ + 4 \\ \hline \end{array}$$

4. The graph shows the total cost c of buying one parking pass and t tickets to a concert. Which equation from the graph could be used to find the total cost c if you buy one parking pass and t tickets to a concert?

- ☒ A) $c = 20t + 10$
☐ B) $c = 10t + 20$
☐ C) $c = 20t$
☐ D) $c = 30t + 10$

$$c = 20t + 10$$



$$\begin{array}{r} t \quad c \\ 0 \overline{) 10} \\ 1 \overline{) 30} \end{array} + 20$$

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Q4-MCQ 7.4

1.

A school sells tickets to their school play through an online ticket company. Each ticket costs \$8 and the company charges a \$2.50 processing fee per order.

Which option correctly represents the relationship between the number of tickets bought t and the total cost c with an equation, a table, and a graph?

A Equation: $c = 8t + 2.50$ *charges*

Number of Tickets, t	Total Cost (\$), c
1	10.50
2	18.50
3	26.50
4	34.50

Total Cost (\$)

Number of Tickets (t)

B Equation: $c = 8t$

Number of Tickets, t	Total Cost (\$), c
1	8
2	16
3	24
4	32

Total Cost (\$)

Number of Tickets (t)

C Equation: $c = 8 + 2.50t$

Number of Tickets, t	Total Cost (\$), c
1	10.50
2	13.00
3	15.50
4	18.00

Total Cost (\$)

Number of Tickets (t)

D Equation: $c = 10.50t$

Number of Tickets, t	Total Cost (\$), c
1	10.50
2	21.00
3	31.50
4	42.00

Total Cost (\$)

Number of Tickets (t)

* each - per - every $\Rightarrow$ variable

* total put before =



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2.

Carmelo earns a weekly allowance of \$5 plus an additional \$0.75 for each chore that he completes.

$$t = 0.75c + 5$$

Which option correctly represents the relationship between the **total** earned t and the number of chores completed c with an equation, a table, and a graph?

A

Equation: $t = 5 + 0.75c$



B

Equation: $t = 0.75c$



C

Equation: $t = 5c + 0.75$



D

Equation: $t = 5 + c$



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3. The table shows the earnings for each pie sold at the sixth grade bake sale. Which equation represents the relationship between the number of pies sold p and the total earnings e ?

Number of Pies, p	Total Earnings (\$), e
1	6
2	12
3	18

☒ A) $e = 6p$

B) $e = p + 6$

C) $e = 3p$

D) $e = 6 + p$

$e = 6p$

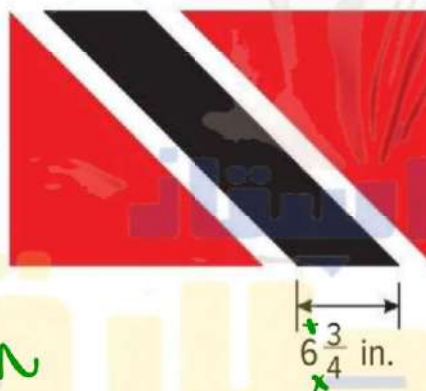
$6 - 6 = 0$

Q5-MCQ 8.1

Example 1 Find Area of Parallelograms

Romilla is painting a replica of the national flag of Trinidad and Tobago for a research project.

30 in.



Find the area of the black stripe.

- a) 180 sq in.
b) 195 sq in.
☒ c) 202.5 sq in.
d) 210 sq in.

$A = b \times h$

$= \frac{27}{4} \times 30$

$= 27 \times 7.5$

$= 202.5 \text{ in}^2$



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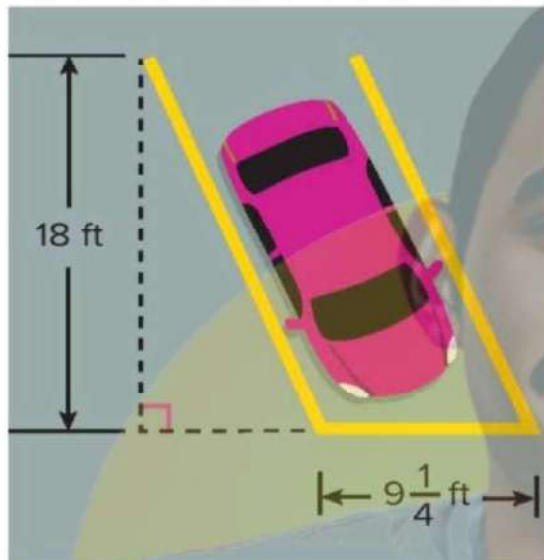
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Find the area of the parking space shown.



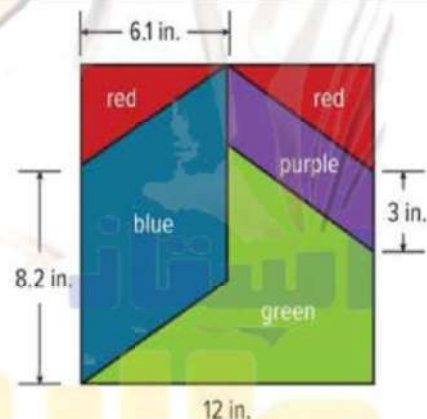
- a) 150 sq ft
b) 160 sq ft
☒ c) 166.5 sq ft
d) 170 sq ft

$$A = 9.25 \times 18 \\ = 166.5$$

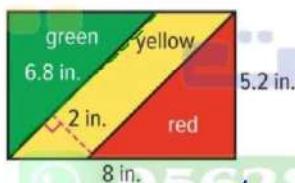
1. The pattern shows the dimensions of a quilting square that Nakida will use to make a quilt. How much blue fabric will she need to make one square? (Example 1)

- A) 84 B) 612 C) 11 ☒ D) 50.02

$$A = 8.2 \times 6.1 = 50.02$$



5. Find the area of the yellow striped region of the flag of the Republic of the Congo.



$$A = 2 \times 6.8 \\ = 13.6$$

- A) 4 B) 99 ☒ C) 13.6 D) 12



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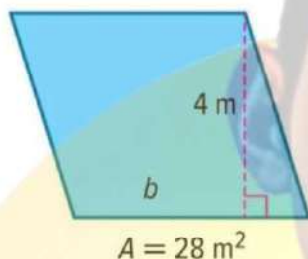
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Q6-MCQ 8.1

3. Find the missing dimension of the parallelogram. (Example 2)

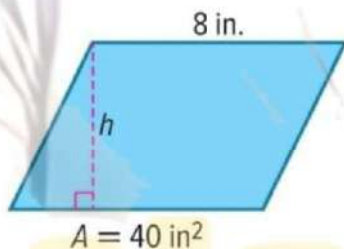


- A) 4 B) 5 ☒ C) 7 D) 12

$$* b = \frac{A}{h}$$

$$= \frac{28}{4} = 7$$

4. Find the missing dimension of the parallelogram. (Example 2)



- A) 4 ☒ B) 5 C) 7 D) 12

$$h = \frac{A}{b} = \frac{40}{8}$$

$$= 5$$

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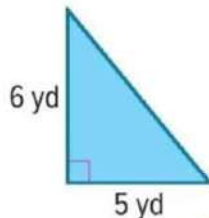


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Q7-MCQ 8.2

Find the area of each triangle. (Example 1)

1.



- ☒ A) 15 B) 16.5 C) $11\frac{3}{8}$ D) 32

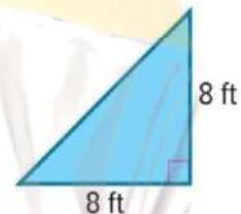
$$A = \frac{1}{2}bh = \frac{1}{2} \times 6 \times 5$$

$$A = 3 \times 5 = 15$$

Find the area of each triangle. (Example 1)

2.

- A) 15 B) 16.5 C) $11\frac{3}{8}$ ☒ D) 32



$$A = \frac{1}{2} \times 8 \times 8 = 4 \times 8 = 32$$

3. Tameeka is in charge of designing a school pennant for spirit week. What is the area of the pennant? (Example 2)

- A) 15 B) 16.5 ☒ C) $11\frac{3}{8}$ D) 32



$$A = \frac{1}{2} \times 6.5 \times 3.5$$

$$= 3.25 \times 3.5 = 3\frac{1}{4} \times 3\frac{1}{2}$$

$$= \frac{13}{4} \times \frac{7}{2} = \frac{91}{8} = 11\frac{3}{8}$$



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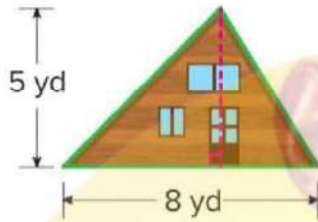
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4. Norma has an A-frame cabin. The back is shown below. If the total area of the windows and doors is 3.5 square yards, how many square yards of paint will she need to cover the back of the cabin? (Example 2)



- A) 15 ~~B) 16.5~~ C) $11\frac{3}{8}$ D) 32

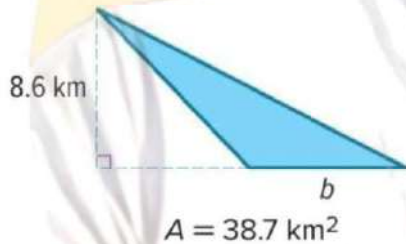
$$\textcircled{1} A = \frac{1}{2} \times 8 \times 5 = 4 \times 5 = 20$$

$$\textcircled{2} 20 - 3.5 = 16.5$$

Q8-MCQ 8.2

Find the missing dimension in each triangle.

5.



- A) 144.5 B) 4 ~~C) 9~~ D) 35

$$* b = \frac{2A}{h}$$

$$b = \frac{2 \times 38.7}{8.6} = \frac{77.4}{8.6} = \frac{774}{86}$$

$$\rightarrow 86 \times 9 = 774$$

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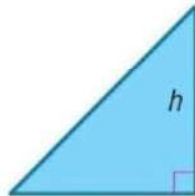
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6.



6.75 in.

 $A = 13.5 \text{ in}^2$

A) 144.5

B) 4

C) 9

D) 35

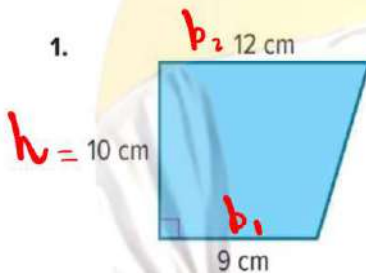
$$h = \frac{2A}{b} = \frac{2 \times 13.5}{6.75} = \frac{27}{6.75}$$

$$4 \times 6.75 = 27.00$$

Q9-MCQ 8.3

Decompose each trapezoid to find its area. (Example 1)

1.

a) 95 cm^2 b) 100 cm^2 c) 105 cm^2 d) 110 cm^2

$$A = \frac{1}{2} (b_1 + b_2) h$$

$$A = \frac{1}{2} (9 + 12) \times 10$$

$$A = 5 (21)$$

$$A = 105$$

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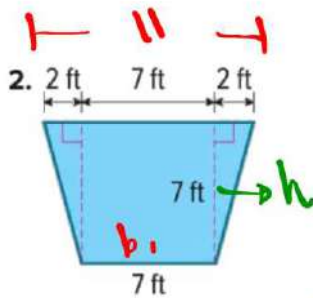
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$$A = \frac{1}{2} (b_1 + b_2) \times h$$

$$= \frac{1}{2} (7 + 11) \times 7$$

$$= \frac{1}{2} (18) \times 7$$

$$= 9 \times 7 = 63$$

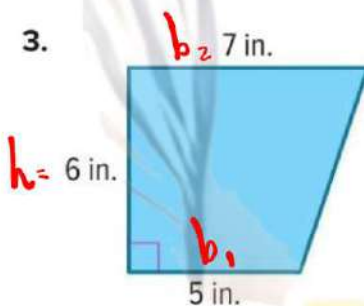
a) 56 ft^2

b) 60 ft^2

✓ c) 63 ft^2

d) 66 ft^2

Find the area of each trapezoid. (Example 2)



a) 30 in^2

b) 33 in^2

✓ c) 36 in^2

d) 39 in^2

$$A = \frac{1}{2} (b_1 + b_2) h$$

$$\frac{1}{2} (5 + 7) \times 6$$

$$A = 3 \times 12$$

$$= 36$$

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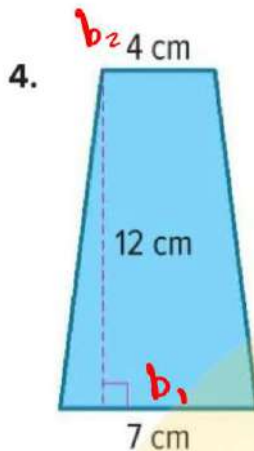
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سلسلة الطارق في الرياضيات



a) 60 cm^2

b) 63 cm^2

✓ c) 66 cm^2

d) 69 cm^2

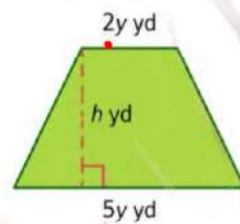
$$A = \frac{1}{2} (b_1 + b_2) h$$

$$\frac{1}{2} (4 + 14) \times 12 =$$

$$6 (11) = 66$$

EX.5**Q10-MCQ 8.3**

Find the missing dimension of the trapezoid.



$$A = 21 \text{ yd}^2$$

What is the value of h ?

A 3 yd

✓ B 6 yd

C 7 yd

D 9 yd

$$* h = \frac{2A}{b_1 + b_2} \quad \text{keep}$$

$$h = \frac{2 \times 21}{5 + 2} = \frac{2 \times 21}{7} = 2 \times 3 = 6$$



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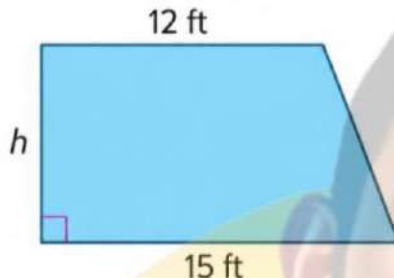
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Find the missing dimension of the trapezoid.



$$A = 108 \text{ ft}^2$$

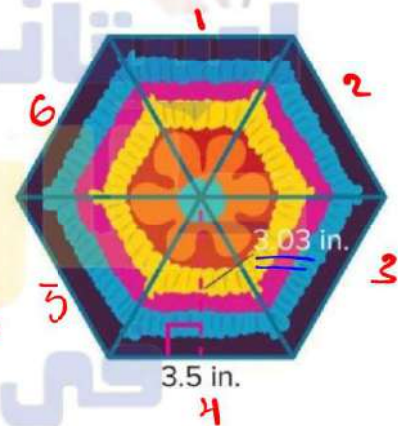
What is the value of h ?☒ A 8 ft☐ B 10 ft☐ C 12 ft☐ D 16 ft

$$h = \frac{2A}{b_1 + b_2} = \frac{2 \times 108}{15 + 12} = \frac{2 \times 108}{27}$$

$$h = 2 \times 4 = \boxed{8}$$

Q11-MCQ 8.4

1. Kendra knitted the coaster shown as a present for her grandmother. The coaster is shaped like a regular hexagon. Each side of the hexagon is 3.5 inches. Find the area of the coaster. Round to the nearest hundredth. (Example 1)



a) 28.50 sq in.

b) 30.15 sq in.

☒ c) 31.83 sq in.

d) 33.20 sq in.

$$n = 6$$

$$A = \frac{1}{2} n b h$$

$$\frac{1}{2} \times 6 \times 3.5 \times 3.03$$

$$3 \times 3.5 \times 3.03 = 31.8$$



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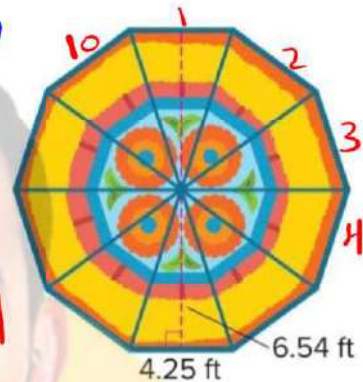
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2. Paul bought a new rug in the shape of a regular decagon. $n = 10$

Each side of the decagon is 4.25 feet. Find the area of the rug. Round to the nearest hundredth. (Example 1)



a) 130.50 sq ft

b) 135.25 sq ft

✓ c) 139.00 sq ft

d) 142.75 sq ft

$$A = \frac{1}{2} n b h$$

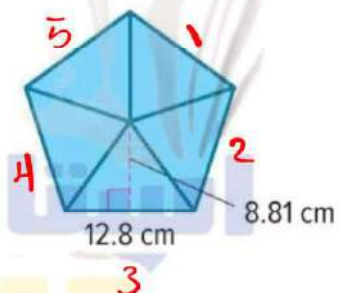
$$\frac{1}{2} \times 10 \times 4.25 \times 6.54$$

$$5 \times 4.25 \times 6.54$$

$$21.25 \times 6.54 = 138.98$$

3. **Open Response** A regular pentagon is shown.

What is the area of the pentagon?

 $n = 5$
a) 250.50 cm²b) 275.25 cm²✓ c) 281.92 cm²d) 290.75 cm²

$$A = \frac{1}{2} n b h$$

$$\frac{1}{2} \times 5 \times 12.8 \times 8.81$$

$$5 \times 6.4 \times 8.81$$

$$32 \times 8.81 = 281.92$$



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Q12-MCQ 8.5

Example 1 Find Perimeter of an Irregular Figure

Find the perimeter of the exhibit shown on the coordinate plane.

A. 40

B. 36

C. 42

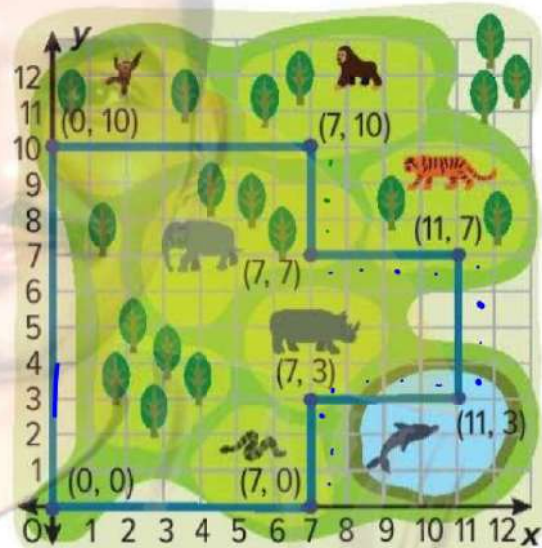
D. 44

$$P = \text{Sum}$$

$$= 1 + 3 + 4 + 4$$

$$+ 4 + 3 + 1$$

$$+ 10 = 42$$



1. Find the perimeter of the summer camp shown on the coordinate plane.

A) 32 units

B) 36 units

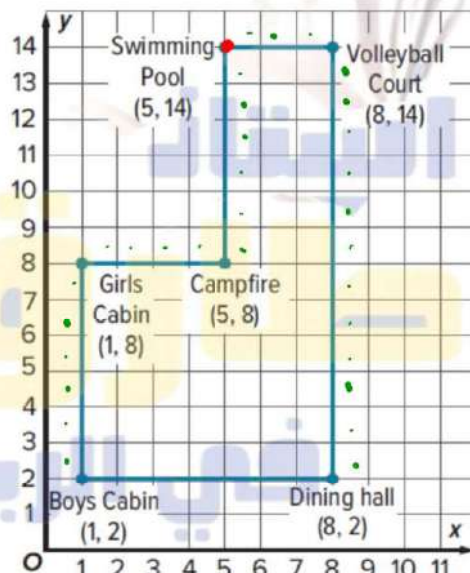
C) 38 units

D) 42 units

$$P = 3 + 12 + 1$$

$$+ 6 + 4 + 6$$

$$= 38$$



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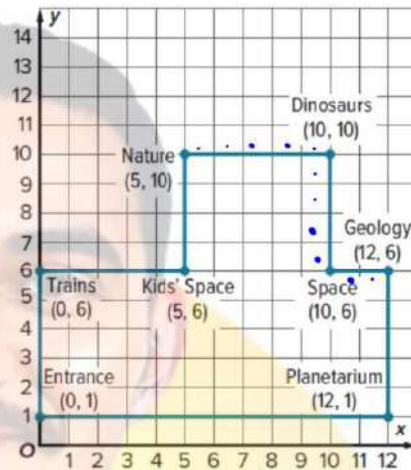


سلسلة الطارق في الرياضيات

2. Find the perimeter of the science center shown on the coordinate plane.

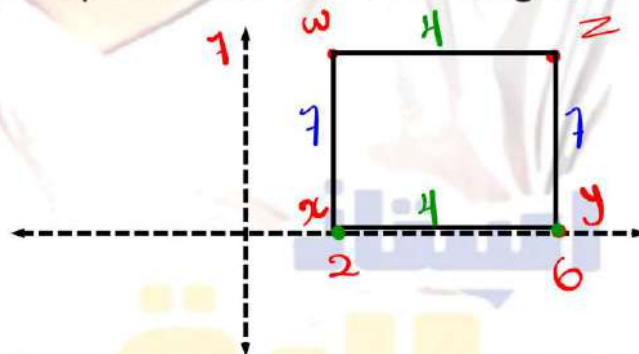
- A) 36 units
B) 40 units
C) 42 units
D) 48 units

$$P = 5 + 4 + 2 + 5 + 12 + 5 + 5 + 1 = 42$$



3. A rectangle has vertices $W(2, 7)$, $X(2, 0)$, $Y(6, 0)$, and $Z(6, 7)$. Use the coordinates to find the perimeter of the rectangle.

- A) 11 units
B) 14 units
C) 22 units
D) 28 units



$$P = 4 + 4 + 7 + 7 = 22$$

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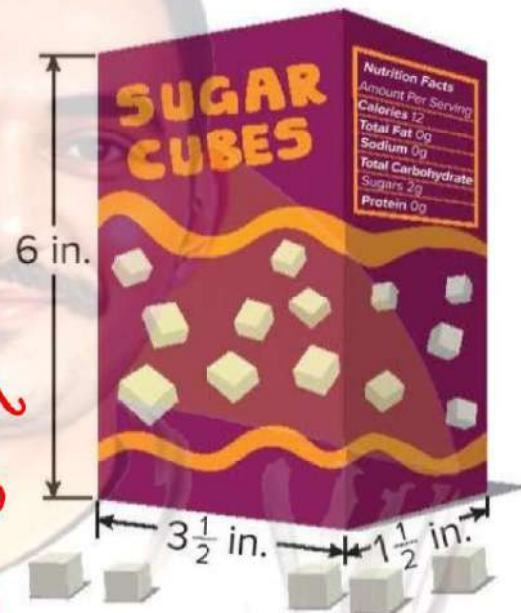
Q13-MCQ 9.1**Example 1** Find the Volume of a Rectangular Prism

Mini sugar cubes measure $\frac{1}{4}$ inch on each side. The box shown is packed full of sugar cubes.

What is the volume of the box?

- ☐ A 21 cubic inches
- ☐ B 27 cubic inches
- ☒ C 31.5 cubic inches
- ☐ D 36 cubic inches

$$\begin{aligned}
 V &= l \times w \times h \\
 &= 6 \times 1.5 \times 3.5 \\
 &= 9 \times 3.5 \\
 &= 31.5
 \end{aligned}$$



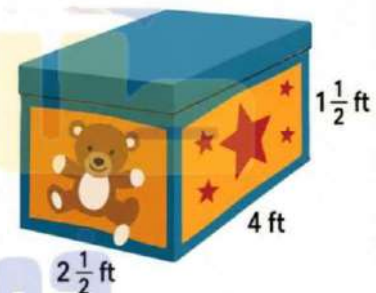
1. Geneva's younger brother has a toy box that is shaped like a rectangular prism with the dimensions shown. What is the volume of the toy box?

$$V = l \times w \times h$$

$$= 11 \times 1.5 \times 2.5$$

$$= 6 \times 2.5 = 15$$

- ☐ A 12 cubic feet
- ☒ B 15 cubic feet
- ☐ C 18 cubic feet
- ☐ D 20 cubic feet



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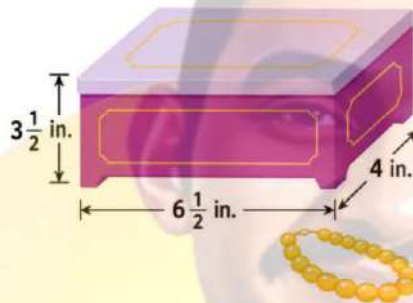
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2. Roy made a jewelry box in the shape of a rectangular prism with the dimensions shown. What is the volume of the jewelry box?

- A 84 cubic inches
☒ B 91 cubic inches
 C 96 cubic inches
 D 104 cubic inches



$$V = l \times w \times h$$

$$V = 4 \times 3.5 \times 6.5$$

$$14 \times 6.5 = 91$$

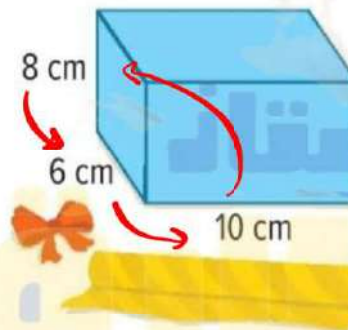
Q14-MCQ 9.2

Example 2 Surface Area of a Rectangular Prism

$$SA = 2(lw + lh + wh)$$

Jon is covering the faces of the gift box shown with wrapping paper.

Use the net to determine the minimum amount of wrapping paper he will need to cover the box.



a) 248 cm^2

b) 360 cm^2

☒ c) 376 cm^2

d) 480 cm^2

$$SA = 2(8 \times 6 + 6 \times 10 + 10 \times 8)$$

$$= 2(48 + 60 + 80)$$

$$= 2[188] = 376$$



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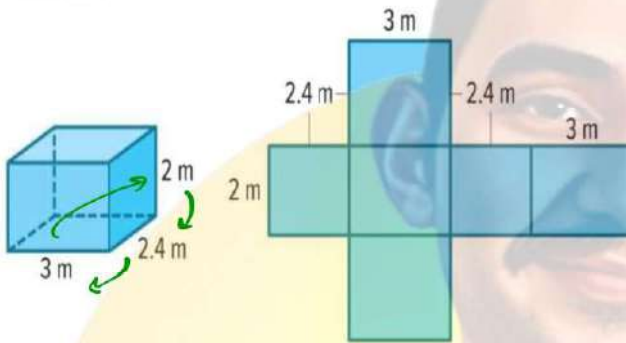
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سلسلة الطارق في الرياضيات

Check

A moving crate that is shaped like a rectangular prism with the dimensions shown needs to be painted. Use the net to determine the area that is to be painted.



a) 28.8 m^2

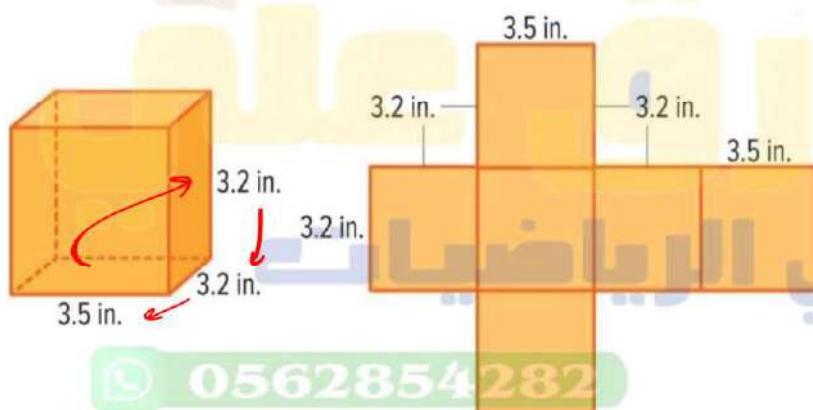
b) 31.2 m^2

c) 36.0 m^2

d) 43.2 m^2

$$\begin{aligned}
 SA &= 2 [2 \times 2.4 + 2.4 \times 3 + 3 \times 2] \\
 &= 2 [4.8 + 7.2 + 6.0] = 2 [18.0] \\
 &= 2 \times 18 = 36
 \end{aligned}$$

2. Trey is using cardboard to construct building blocks that are shaped like rectangular prisms. Use the net to determine the minimum amount of cardboard he will need to construct one block. (Example 2)



A) 1120 in^2

B) 6.25 in^2

C) 65.28 in^2

D) 3.75 in^2



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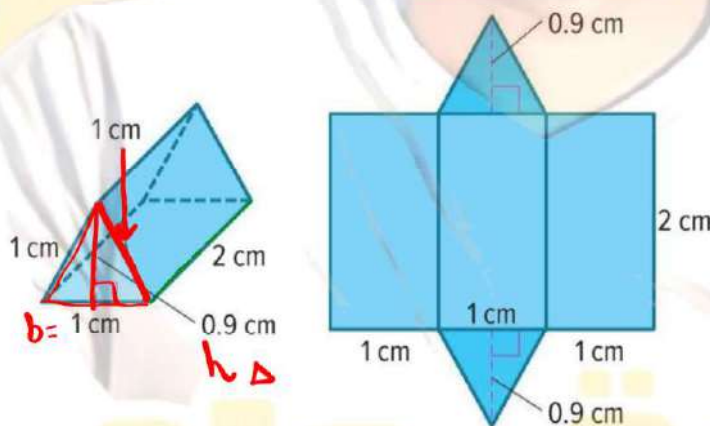
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$$\begin{aligned}
 SA &= 2(3.2 \times 3.2 + 3.2 \times 3.5 + 3.2 \times 3.5) \\
 &= 2(10.24 + 11.20 + 11.20) \\
 &= 2(32.64) = \boxed{65.28}
 \end{aligned}$$

Q15-MCQ 9.3

Example 3 Find Surface Area of a Triangular Prism

Use the net to find the surface area of the triangular prism.



A. 5.8

✓ B. 6.9

C. 7.6

D. 8

$$SA = bh_{\Delta} + pl_{\Delta}$$

$$= 1 \times 0.9 + 3 \times 2$$

$$= 0.9 + 6 = 6.9$$

$$\begin{aligned}
 P_{\Delta} &= \text{Sum of } \Delta \\
 &= 1 + 1 + 1 \\
 &= 3
 \end{aligned}$$

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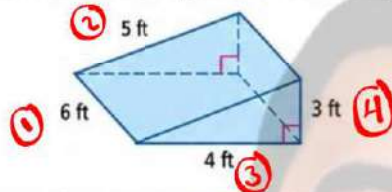
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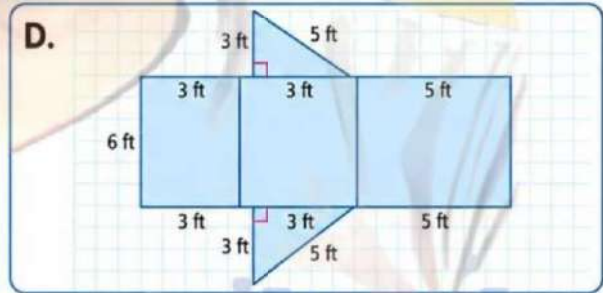
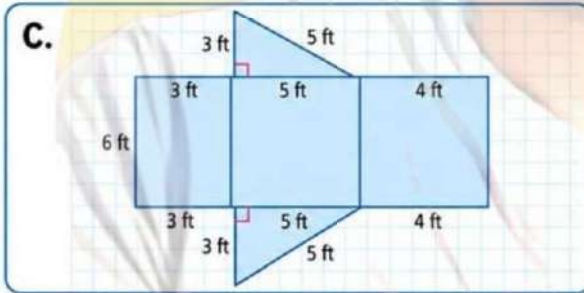
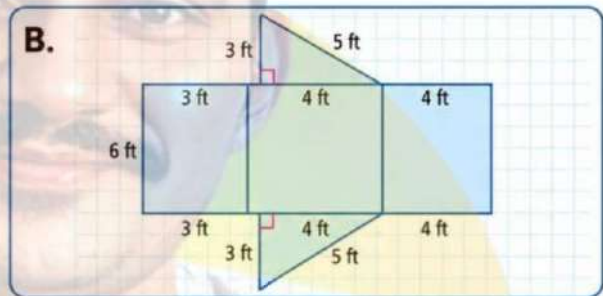
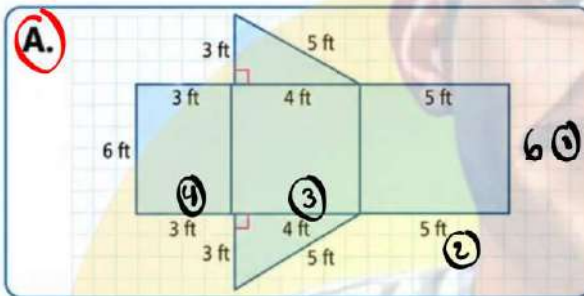


سلسلة الطارق في الرياضيات

1. Draw and label a net to represent the triangular prism. Let each grid unit represent 1 foot.



Which net correctly represents the triangular prism?



2. Use the net to find the surface area of the triangular prism.

(Example 2)

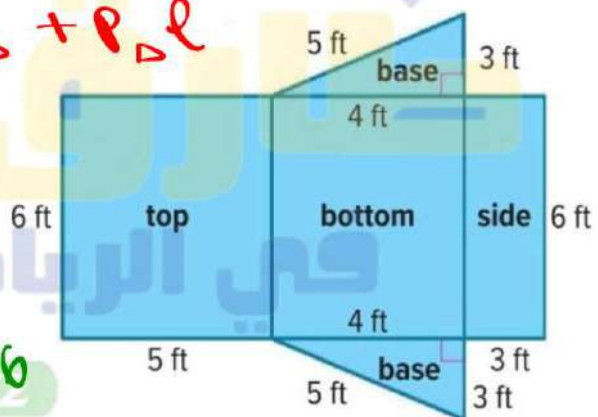
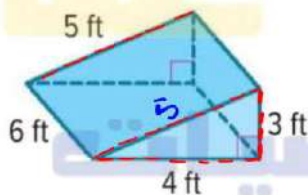
$$SA = b \cdot h_{\triangle} + P_{\triangle} \cdot l$$

(a) 135.2 ft^2

(b) 338 ft^2

(c) 84 ft^2

(d) 642.2 ft^2



$$SA = 4 \times 3 + (4 + 3 + 5) \cdot 6$$
$$= 12 + 72 = 84$$



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3. **Open Response** Use the net to find the surface area of the triangular prism in square meters. (Example 3)

$$SA = b h_{\Delta} + P_{\Delta} \ell$$

(a) 811.2 m^2

(b) 338 m^2

(c) 84 m^2

(d) 642.2 m^2

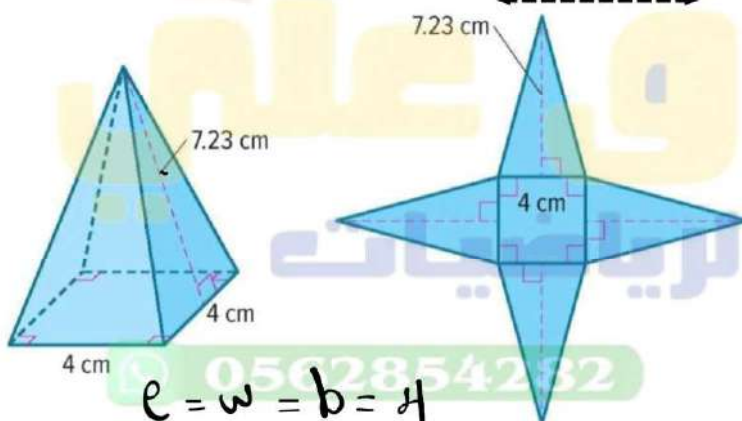


$$\begin{aligned} SA &= 15.6 \times 10.4 + (15.6 + 13 + 13)(15.6) \\ &= 162.24 + 11.6 \times 15.6 \\ &= 162.24 + 648.96 = 811.2 \end{aligned}$$

Q16-MCQ 9.4

Example 3 Find Surface Area of a Square Pyramid

Use the net to find the surface area of the square pyramid.



a. 106.79 cm^2

b. 103 cm^2

c. 73.84 cm^2

d. 99 cm^2

$$\ell = w = b = h$$



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Square Pyramid

length $\leftarrow l = w = b \rightarrow$ base $\cdot$ *
 $SA = lw + 2bs$ $\rightarrow s = \text{height}$

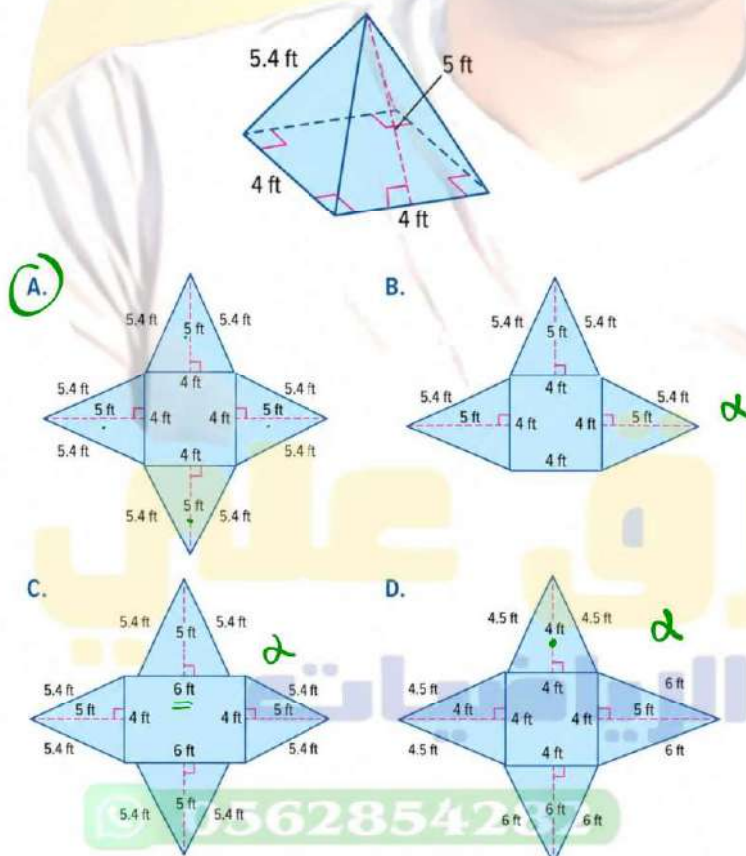
Triangular Pyramid

If $s = h$ same , If $s \neq h$

$SA = 2bs$ $SA = \frac{1}{2}bh + \frac{3}{2}bs$

$$\begin{aligned}
 SA &= 4 \times 4 + 2 \times 4 \times 7.23 \\
 &= 16 + 8 \times 7.23 \\
 &= 16 + 57.84 \\
 &= 73.84
 \end{aligned}$$

1. Which net correctly represents the square pyramid shown?



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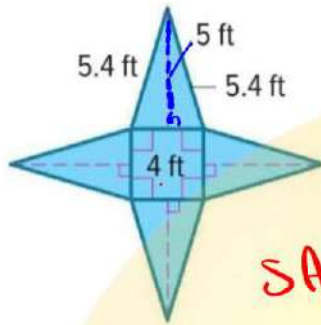
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3. Use the net to find the surface area of the pyramid. (Example 3)



$$SA = l \times w + 2bs$$

$$l = w = b = 4$$

$$a. 106.79 \text{ ft}^2$$

$$b. 56 \text{ ft}^2$$

$$c. 73.84 \text{ ft}^2$$

$$d. 161 \text{ ft}^2$$

$$SA = 4 \times 4 + 2 \times 4 \times 5$$

$$= 16 + 8 \times 5$$

$$= 16 + 40$$

$$= 56$$

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Q17-MCQ 10.1

* each - Per

* every, typical

* average, ly

1. How many continents are there?

(a) Statistical question

(b) Not a statistical question

2. How many continents has the average student visited?

(a) Statistical question

(b) Not a statistical question

3. How many sporting events did the average student attend last year?

(a) Statistical question

(b) Not a statistical question

4. In what year was the first World Series?

(a) Statistical question

(b) Not a statistical question

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5. A class surveyed students using the question: *How many siblings do you have?* The responses were 1, 4, 2, 3, 0, 1, 0, 5, 1, 2, 2, 3, 0, 1, 2, 0, 1, 1, 6, and 2. Which frequency table correctly organizes the data?

A)

Number of Siblings	Number of Responses
0-1	10
2-3	7
4-5	2
6 or more	1

B)

Number of Siblings	Number of Responses
0-1	9
2-3	8
4-5	2
6 or more	1

C)

Number of Siblings	Number of Responses
0-1	10
2-3	6
4-5	3
6 or more	1

D)

Number of Siblings	Number of Responses
0-1	8
2-3	9
4-5	2
6 or more	1

6. You survey your classmates using the question, *How many toppings do you like on an ice cream sundae?* The responses were 2, 3, 7, 4, 5, 5, 4, 4, 1, 2, 4, 3, 4, 3, 6, 0, 4, 5, 6, and 5 toppings. Which frequency table correctly organizes the data?

A)

Number of Toppings	Number of Responses
0-1	2
2-3	5
4-5	10
6 or more	3

B)

Number of Toppings	Number of Responses
0-1	3
2-3	5
4-5	9
6 or more	3

C)

Number of Toppings	Number of Responses
0-1	2
2-3	6
4-5	9
6 or more	3

D)

Number of Toppings	Number of Responses
0-1	2
2-3	5
4-5	8
6 or more	5



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7. You survey your classmates using the question *How many sports do you play?*. The responses were 2, 2, 1, 3, 1, 2, 4, 1, 2, 1, 3, 2, 2, and 2 sports.
Which table correctly organizes the data?

A.

Number of Sports	Number of Responses
1	4
2	7
3	2
4	1

B.

Number of Sports	Number of Responses
1	3
2	6
3	3
4	2

C.

Number of Sports	Number of Responses
1	3
2	7
3	2
4	1

D.

Number of Sports	Number of Responses
1	4
2	6
3	4
4	0

8. **Multiselect** Which of the following are statistical questions? Select all that apply.

☒ How many DVDs does a typical student own?

☒ How many classes does each student take?

☐ How many oceans are there in the world?

☒ How many pets does a typical student own?

☒ How many times did a typical student go to the zoo last year?

☐ How many continents are there?



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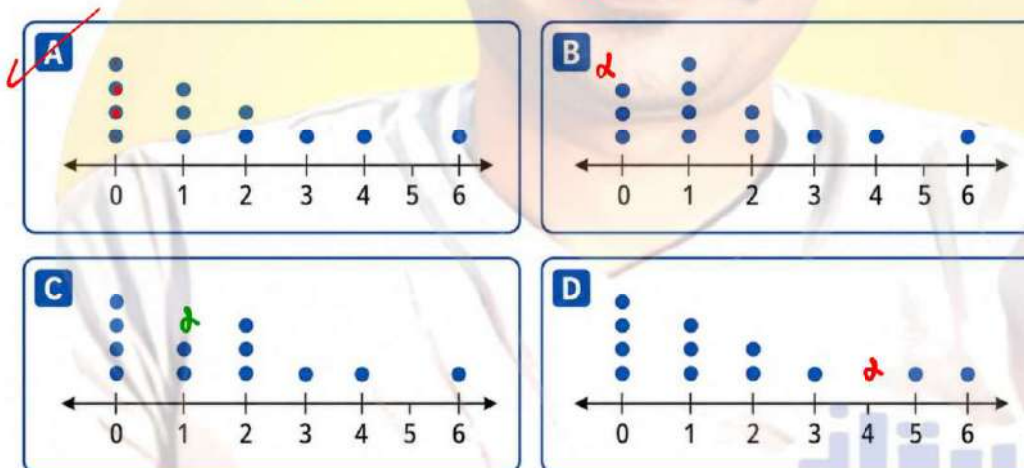
سلسلة الطارق في الرياضيات

Q17 مكرر هو نفسه Q18-MCQ 10.1

Q19-MCQ 10.2

1. Chris surveyed the members of his tennis team by asking the question, 'In how many tennis tournaments have you played?' The results are shown in the table. Which dot plot correctly represents the data?

Number of Tennis Tournaments					
0 ✓	(2)	(1)	4 ✓	0 ✓	(1)
(1)	✓0	3	(2)	6 ✓	0 ✓



2. The table shows the results of asking a group of teachers the question, 'How many students are in your homeroom?' Which histogram correctly represents the data?

Homeroom Class Size						
17	26	20	23	19	23	22
22	24	19	20	21	20	23

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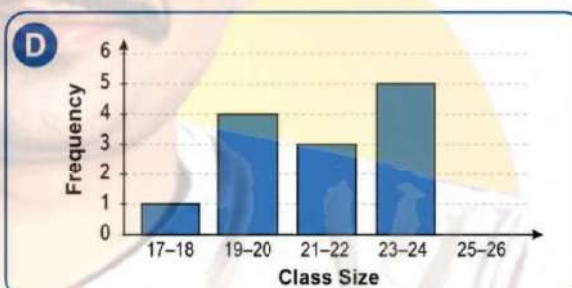
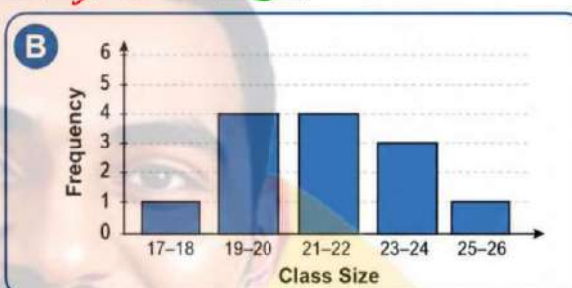
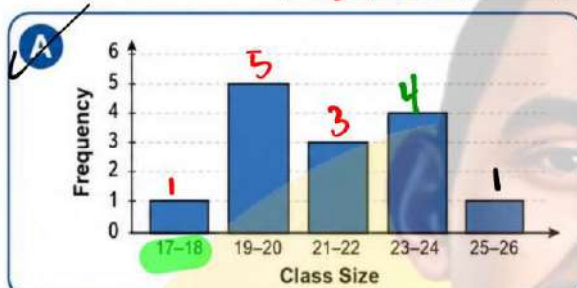
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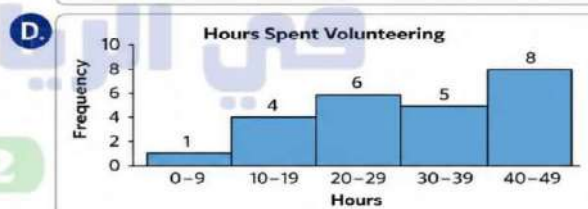
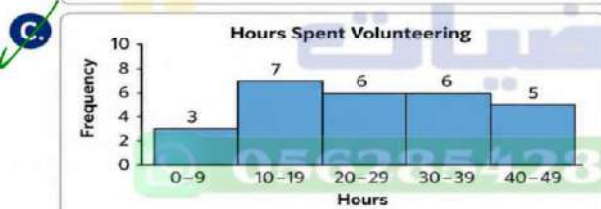
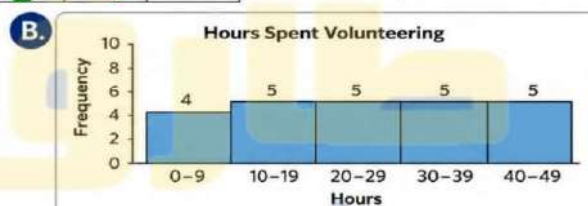
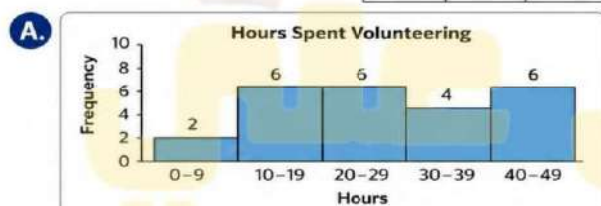
Homeroom Class Size						
17	26	20	23	19	23	22
22	24	19	20	21	20	23

17-18 → 1
19-20 → 5
21-22 → 3



3. The table shows the results of asking a group of students the question
How many hours per month do you volunteer?
Which histogram correctly represents the data? (Example 2)

Hours Spent Volunteering					
48	30	21	10	1	19
10	5	40	39	20	40
31	45	29	40	18	31
24	32	15	0	15	12



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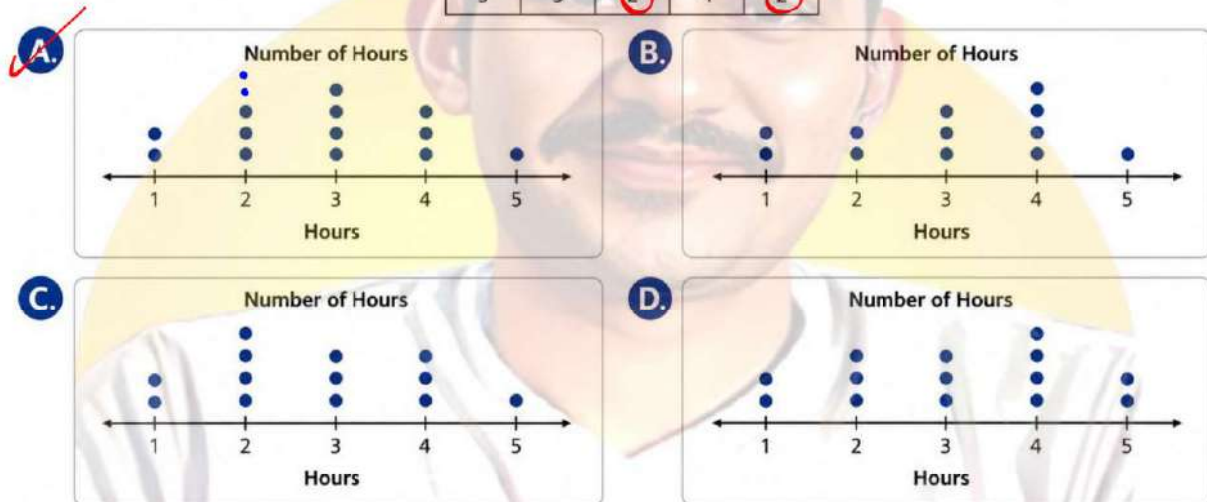
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سلسلة الطارق في الرياضيات

4. Petra surveyed the members of her dance class by asking the question
How many hours outside of class do you usually practice dance each week?
 The results are shown in the table.
 Which dot plot correctly represents the data?

Number of Hours				
1	3	4	5	2
2	2	4	3	1
3	3	2	4	2



Q20-MCQ 10.3

1. The number of cans collected over the weekend by each sixth grade homeroom was 57, 59, 60, 58, 58, and 56 cans. Find the mean number of cans collected. (Example 1)

A) 56 cans

B) 57 cans

C) 58 cans

D) 60 cans

$$\text{mean} = \frac{\text{Sum}}{N} = \frac{57 + 59 + 60 + 58 + 58 + 56}{6} = \frac{348}{6} = 58$$



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2. Grace and her friends are comparing the number of pets they own. They have 1, 2, 0, 5, 1, 1 and 4 pets. Find the mean number of pets owned. (Example 1)

A. 3

✓ B. 2

C. 5

D. 6

$$\text{Mean} = \frac{1+2+0+5+1+1+4}{7} = \frac{14}{7} = 2$$

3. The amount Lucy earned babysitting each month for the past five months was \$225, \$280, \$240, \$180, and \$200. Suppose the mean for six months was \$220. How much did Lucy earn babysitting during the sixth month? (Example 2)

A) \$185

✓ B) \$195

C) \$205

D) \$215

① Total =

$$225 + 280 + 240 + 180 + 200 = 1125$$

$$\text{② mean} \times 6 = 6 \times 220 = 1320$$

$$\text{③ الجواب } 1320 - 1125 = 195$$

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4. The average high temperature last week was 65 degrees Fahrenheit. The high temperatures for Sunday through Friday were 68, 70, 73, 45, 68, and 71 degrees Fahrenheit. What was the high temperature on Saturday? (Example 2)

average = mean
= 65

A 58°F

B 60°F

C 62°F

D 65°F

① Total = $68 + 70 + 73 + 45 + 68 + 71 = 395$

② mean $\times 7 = 65 \times 7 = 455$

③ الفرق $455 - 395 = 60$

Q21-MCQ 10.3

5. The table shows the results of a survey about the number of e-mails sent in one day. What is the median number of e-mails sent per day?

Number of E-mails Sent Per Day						
20	24	22	27	21	27	20
27	22	23	20	22	24	26
23	26	27	22	27	20	25

Choose the correct answer.

A 22

B 23

C 24

D 25

* order * cut

~~20, 20, 20, 20, 21, 22~~
~~22, 22, 22, 23, 23, 24~~
~~24, 25, 26, 26, 27~~
~~27, 27, 27, 27~~



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6. The table shows the number of students in each group on a school field trip. What is the median size of a group?

Number of Students in Each Group				
5	7	8	7	6
4	4	5	6	9
7	5	7	8	6
9	7	5	4	5

Choose the correct answer.

A) 5

B) 6

C) 7

D) 8

4, 4, 4, 5, 5, 5, 5
 5, 6, 6, 6, 7, 7
 7, 7, 7, 8, 8, 9
 9

$$\frac{6+6}{2} = \frac{12}{2} = 6$$

7. The table shows the number of points scored by a basketball team in each game last season. What is the median number of points scored?

Number of Points					
64	41	52	63	44	54
42	67	44	68	43	61

Choose the correct answer.

A) 52

B) 53

C) 54

D) 55

41, 42, 43, 44, 44
 52, 54, 61, 63, 64
 67, 68

$$\frac{52+54}{2}$$

$$\frac{106}{2} = 53$$

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8.

The number of points Seth has earned playing his favorite game is shown.

What is the median of the data?

40	28	24	37	43	26	30	36
----	----	----	----	----	----	----	----

Choose the correct answer.

A 30

B 32

C 33

D 36

~~24, 26, 28~~
~~30, 36, 37~~
~~40, 43~~

$$\frac{30 + 36}{2} = \frac{66}{2} = 33$$

Q22-MCQ 10.4

Example 1 Find the Range and Interquartile Range

The table shows the approximate maximum speeds, in miles per hour, of different animals.

Use the range and interquartile range to describe how the data vary.

Animal	Speed (mph)
Housecat	30
Cheetah	70
Elephant	25
Lion	50
Mouse	8
Spider	1

*Range = Big - Small

$$= 70 - 1 = 69$$



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- a) The range is 69 mph and the interquartile range is 22 mph.
- b) The range is 70 mph and the interquartile range is 42 mph.
- ☒ c) The range is 69 mph and the interquartile range is 42 mph.
- d) The range is 70 mph and the interquartile range is 22 mph.

* IQR $\Rightarrow$ ① order ② $Q_3 - Q_1$

$1 \rightarrow 8 \rightarrow 25 \rightarrow 30 \rightarrow 50 \rightarrow 70$
 $\downarrow \qquad \qquad \qquad \downarrow$
 $Q_1 \qquad \qquad \qquad Q_3$

$$IQR = 50 - 8 = 42$$

Example 3 Construct and Interpret Box Plots

The table shows the recorded speeds of cars traveling on a country road.

Car Speeds (mph)									
25	35	27	22	34	40	20	19	23	25

Construct a box plot to represent the data. Then describe the distribution of the data.

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سلسلة الطارق في الرياضيات

Car Speeds (mph)

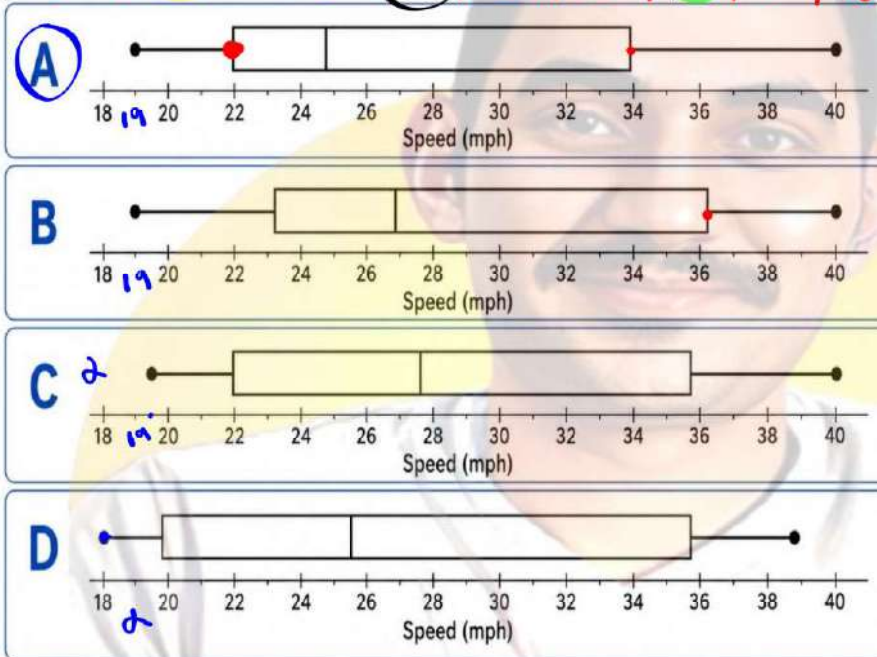
25	35	27	22	34	40	20	19	23	25
----	----	----	----	----	----	----	----	----	----

~~19, 20, 22, 23, 25, 27, 30, 34, 35, 40~~

* lower = 19

* upper = 40

* Median = 25

* $Q_1 = 22$ * $Q_3 = 34$ 

The table shows the depths of recent earthquakes, in kilometers.
Which box plot correctly represents the data?

Depth of Recent Earthquakes (km)						
5.	15.	1.	11.	2.	7.	3.
9.	5.	4.	9.	10.	5.	7.

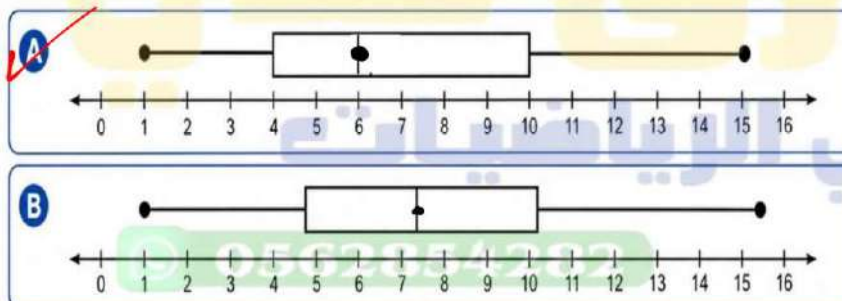
* lower = 1

* upper = 15

~~1, 2, 3, 4, 5, 5, 7, 7~~

~~9, 9, 10, 15~~

$$\text{Median} = \frac{5+7}{2} = \frac{12}{2} = 6$$



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سلسلة الطارق في الرياضيات

Q23-MCQ 10.4

1. Cameron surveyed her friends about the number of apps they use. The responses were 15, 16, 18, 9, 18, 4, 19, 20, 17, and 36 apps. Use the range and interquartile range to describe how the data vary.

* order

4, 9, 15, 16, 17

18, 18, 19, 20, 36

a) Range = 32, IQR = 17.5

* Range = Big - Small

b) Range = 4, IQR = 32

= 36 - 4 = 32

c) Range = 32, IQR = 4

* 4, 9, 15, 16, 17 15 = Q₁

d) Range = 16, IQR = 4

* 18, 18, 19, 20, 36 19 = Q₃

* IQR = Q₃ - Q₁ = 19 - 15 = 4

2. The table shows the number of hours different animals spend sleeping per day. Use the range and interquartile range to describe how the data vary. (Example 1)

Time Animals Spend Sleeping (h)					
12	20	16	11	4	2

a) Range = 18, IQR = 12

b) Range = 4, IQR = 32

c) Range = 32, IQR = 4

d) Range = 16, IQR = 4

order → 2, 4, 11, 12, 16, 20

Q₁ Q₃

* Range = 20 - 2 = 18

* IQR = 16 - 4 = 12



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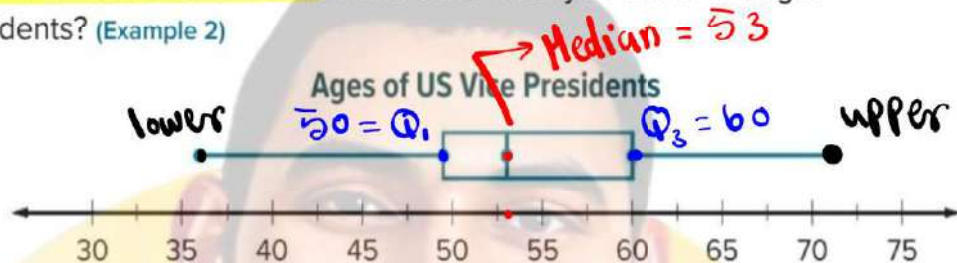
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سلسلة الطارق في الرياضيات

3. The box plot shows the ages of vice presidents when they took office.

Describe the distribution of the data. What does it tell you about the ages of vice presidents? (Example 2)



- a) The distribution with a median age of 53 and a range of 35. It shows that most vice presidents took office between 50 and 60 years old.
- b) The distribution with a median age of 50 and an IQR of 10. It shows that there are more vice presidents who took office at younger ages.
- c) The distribution with a median age of 53 and an IQR of 10. It shows that there are a few vice presidents who took office at older ages.
- d) The distribution is **None** with a median age of 55 and a range of 10. It shows that the ages of vice presidents are evenly distributed.

$$* \text{Median} = 53$$

$$* \text{IQR} = Q_3 - Q_1 = 60 - 50 = 10$$

$$* \text{Range} = 71 - 36 = 35$$

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سلسلة الطارق في الرياضيات

4. The ages of children taking a hip-hop dance class are 10, 9, 9, 7, 12, 14, 14, 9, and 16 years old. Construct a box plot of the data. Then describe the distribution of the data. (Example 3)

*order $\rightarrow$ ~~7~~, ~~9~~, ~~9~~, ~~9~~, 10, ~~12~~, ~~14~~, ~~14~~, ~~16~~

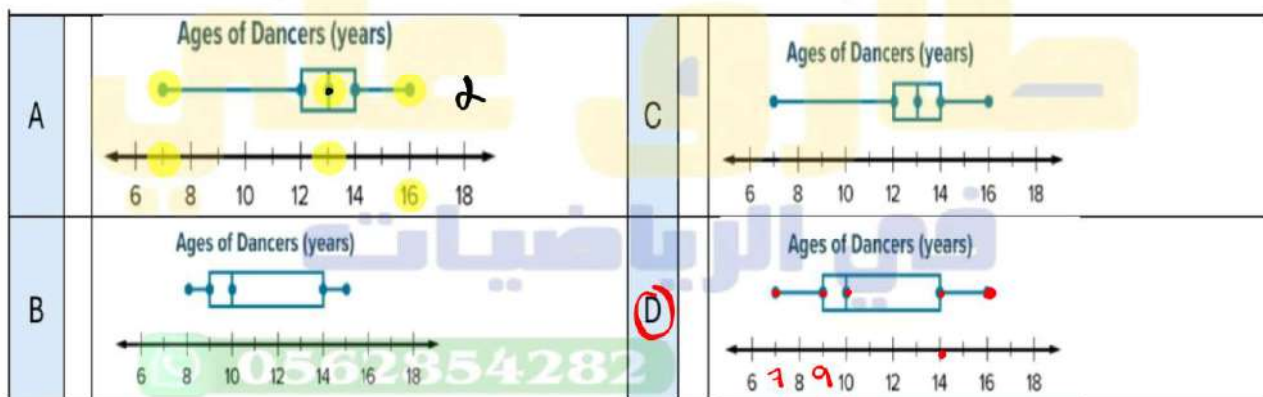
① lower = minimum = 7

② upper = maximum = 16

③ Median = 10

④ $Q_1 \rightarrow$ ~~7~~, 9, 9, ~~9~~ $\rightarrow \frac{9+9}{2} = 9$

⑤ $Q_3 \rightarrow$ ~~12~~, 14, 14, ~~16~~ $\rightarrow \frac{14+14}{2} = 14$



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سلسلة الطارق في الرياضيات

Q24-MCQ 10.6

1) The box plot shows the amount of money, in dollars, Olivia saved during various months. Which value is considered an **outlier** in the data set?



a) 10

b) 20

c) 30

d) 100

outlier:- نقطة مفردة (point is Far away of cluster).

2) The box plot shows the ticket prices, in dollars, of various concerts. Which value is considered an **outlier** in the data set?



a) 110

b) 50

c) 30

d) 55

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سلسلة الطارق في الرياضيات

Q25-MCQ 10.6

EX.1

The ages, in years, of the candidates in an election are 55, 49, 48, 57, 23, 63, and 72.

Which of the following is an outlier in the data set?

- ☒ A) 23 B) 48 C) 57 D) There are no outliers.

1. Last week, Joakim spent 40, 25, 60, 30, 35, and 40 minutes practicing the piano.

Identify any outliers in the data.

- A) 25 and 60 ☒ B) 60 C) No outliers D) 25.

2. Last month, a basketball team scored 83, 84, 85, 87, 89, 88, 67, 79, and 81 points in their games.

Identify any outliers in the data.

- ☒ A) 67 B) 79 C) No outliers D) 67 and 79

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Question 3

Abrianna sold 20, 23, 18, 4, 17, 21, 15, and 56 boxes of cookies after different football games. Identify any outliers in the data.

Choose the correct answer.

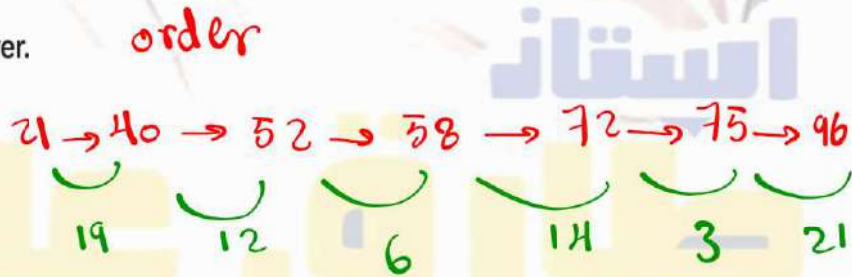
- ☒ A. 4 and 56
- ☐ B. 56
- ☐ C. 4
- ☐ D. No outliers

Question 4

Last week a certain pet store had 52, 72, 96, 21, 58, 40, and 75 paying customers. Identify any outliers in the data.

Choose the correct answer.

- ☐ A. 21
- ☐ B. 96
- ☐ C. 21 and 96
- ☒ D. No outliers



قريبه من بعض

في الرياضيات

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سلسلة الطارق في الرياضيات

حل أمثلة

21 → 40 → 52 → 58 → 72 → 75 → 96

$$Q_1 = 40$$

$$Q_3 = 75$$

$$IQR = 75 - 40 = 35$$

$$\begin{aligned} \rightarrow Q_1 - 1.5 IQR &= 40 - 1.5(35) \\ &= 40 - 52.5 \\ &= \boxed{-12.5} \end{aligned}$$

$$\begin{aligned} \rightarrow Q_3 + 1.5 IQR &= 75 + 1.5(35) \\ &= 75 + 52.5 \\ &= \boxed{127.5} \end{aligned}$$

$$\rightarrow \boxed{-12.5 \rightarrow 127.5}$$

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منصة طارق أكاديمي للرياضيات

Tarek Academy

IN

Math

MATH

خاص بالمنصة



خاص بجميع الجروبات و القنوات



استاذ / طارق علي

The background of the poster is a dark blue chalkboard filled with various mathematical concepts. It includes algebraic formulas like $[a+b]$, $\pi=3.14$, $A=\frac{ab+c}{d}$, $x=\frac{-b+\sqrt{b^2-4ac}}{2a}$, $a^2+b^2=c^2$, $c=\sqrt{a^2+b^2}$, $a^2=2a$, $f(a+b)=c$, $(x+y)^2-(x-y)$, $+2c=1$, and $\frac{a}{c}=\frac{HB}{a}$. It also features geometric diagrams such as a coordinate plane with a curve, a cylinder, and a sine wave. Symbols like ψ and Me are also present.