شكراً لتحميلك هذا الملف من موقع المناهج الإماراتية	
	

المراجعة النهائية وفق الهيكل الوزاري - ريفيل

التواصل الاجتماعي بحسب 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 الثاني

1	دليل تصحيح أسئلة الامتحان الورقي
2	حل مراجعة نهائية وفق الهيكل الوزاري - ريفيل
3	حل أسئلة الامتحان النهائي
4	توقعات وملخص أسئلة وفق الهيكل الوزاري
5	حل المراجعة النهائية وفق الهيكل الوزاري - ريفيل

المراجعة النهائية للصف التاسع متقدم

الفصل الدراسي الثاني 2023/2022
طبقاً لهيكل الاختبار

EoT2 – Grade 9 Advanced

Reveal

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Question		Learning Outcome***	Reference(s) in the Student Book المرجع في كتاب الطالب	
Part 1	1	determine the number of solutions of a system of liner equations. Solve linear equations by graphing systems of equations	Ex 1,2	387,388
	2	Solve systems of equations by using the substitution method.	(1-9)	403
	3	Solve systems of equations by eliminating a variable using addition	(1-9)	409
	4	Identify points, lines, and planes.	(25-29)	566
	5	Identify points, lines, and planes.	Ex 1,2,4	562,564
	6	Calculate measures of line segments.	(1-9)	573
	7	Analyze figures using the definitions of angles and parts of angles.	(26-33)	622
	8	Calculate angle measures using the definitions of congruent angles and angle bisectors	(12-14)	621
	9	Identify and determine characteristics of three-dimensional figures	(1-6)	663
	10	Calculate surface areas and volumes	(7-12)	663

Each question 3 marks كل سؤال عليه 3 درجات

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Question		Learning Outcome***	Reference(s) in the Student Book المرجع في كتاب الطالب	
Part 2	11	Solve systems of equations by graphing.	(1-8)	395
	12	Solve systems of equations by eliminating a variable using addition	(10-15)	409
	13	Apply the definition of congruent line segments to find missing values.	(10-15)	573
	14	Find the length of a line segment on a number line.	(1-6)	581
	15	Find the distance between two points on the coordinate plane	(31-36)	583
	16	Find a point on a directed line segment on a number line that is a given fractional distance from the initial point.	1,2,3,7,8,9	589
	17	Find a point that partitions a directed line segment on the coordinate plane in a given ratio	(4-6)	597
	18	Calculate angle measures using the characteristics of complementary and supplementary angles	(1-6)	631
	19	Find perimeters, circumferences, and areas of two-dimensional geometric shapes	(1-6)	641
	20	Solve systems of linear inequalities by graphing.	(15-17)	423

Each question 5 marks كل سؤال عليه 5 درجات

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Question		Learning Outcome***	Reference(s) in the Student Book المرجع في كتاب الطالب	
Part 3	21	Solve systems of equations by eliminating a variable using multiplication and addition	(1-9)	417
	22	Find perimeters, circumferences, and areas of two-dimensional geometric shapes	(7-9)	641
	23	Find the coordinates of the midpoint or endpoint of a line segment on the coordinate plane	(33-38)	606

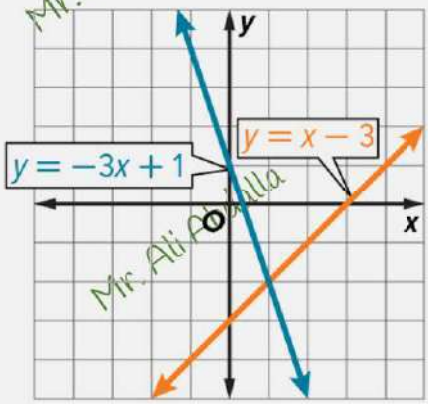
Each question 6-8 marks كل سؤال عليه 6-8 درجات

Question		Learning Outcome***	Reference(s) in the Student Book المرجع في كتاب الطالب
Bonus	24	****A learning outcome from the SoW ناتج من الخطة الفصلية****	Bonus غير معلن Undisclosed
	25	****A learning outcome from the SoW ناتج من الخطة الفصلية****	

Each question 5 marks كل سؤال عليه 5 درجات

1	**determine the number of solutions of a system of liner equations. Solve linear equations by graphing systems of equations**	**Ex 1,2**	**387, 388**

Use the graph to determine the number of solutions the system has. Then state whether the system of equations is consistent or inconsistent and if it is independent or dependent.



A) Consistent and independent
B) Consistent and dependent
C) Inconsistent and independent
D) Inconsistent

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1	**determine the number of solutions of a system of liner equations. Solve linear equations by graphing systems of equations**	**Ex 1,2**	**387, 388**

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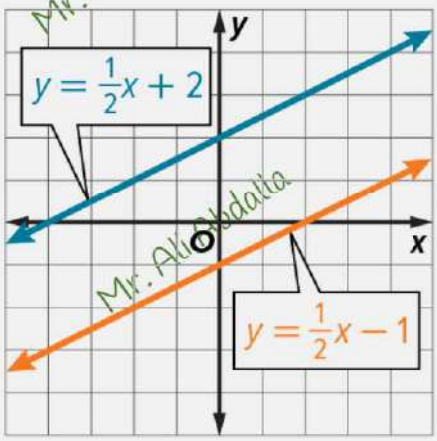

A) Consistent and independent
B) Consistent and dependent
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Term 2 - 2022/2023

Garde 9 Advanced

1	**determine the number of solutions of a system of liner equations. Solve linear equations by graphing systems of equations**	**Ex 1,2**	**387, 388**

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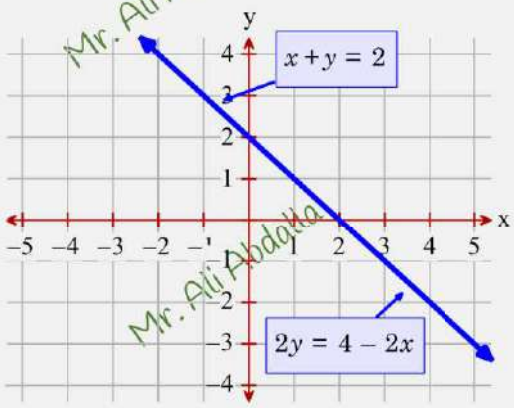

A) Consistent and independent
B) Consistent and dependent
C) Inconsistent and independent
D) Inconsistent

2	**Solve systems of equations by using the substitution method.**	**(1-9)**	**403**

Use substitution to solve each system of equations.

1. $y = 5x + 1$
$4x + y = 10$

A) (1,11)
B) (6,1)
C) (1, −6)
D) (1,6)

2. $y = 4x + 5$
$2x + y = 17$

A) (2,11)
B) (2,13)
C) (13,2)
D) (−2,5)

2	Solve systems of equations by using the substitution method.	(1-9)	403

Use substitution to solve each system of equations.

4. $y = 3x - 2$
$y = 2x - 5$

A) (3,7)
B) (5,13)
C) (−3,11)
D) (−3, −11)

3. $y = 3x - 34$
$y = 2x - 5$

A) (53,29)
B) (29,35)
C) (29,53)
D) (7, −13)

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2	Solve systems of equations by using the substitution method.	(1-9)	403

Use substitution to solve each system of equations.

5. $2x + y = 3$
$4x + 4y = 8$

A) (2, −1)
B) (1,1)
C) (−1,1)
D) (1, −3)

6. $3x + 4y = -3$
$x + 2y = -1$

A) (−1,0)
B) (1,0)
C) (0,1)
D) (3, −3)

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2	Solve systems of equations by using the substitution method.	(1-9)	403

Use substitution to solve each system of equations.

7. $y = -3x + 4$
$-6x - 2y = -8$

A) (1,1) B) Infinite solution
C) $(1, -1)$ D) No solutions

8. $-1 = 2x - y$
$8x - 4y = -4$

A) (2,5) B) Infinite solution
C) $(2, -5)$ D) No solutions

9. $x = y - 1$
$-x + y = -1$

A) (2,5) B) Infinite solution
C) $(2, -5)$ D) No solutions

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3	Solve systems of equations by eliminating a variable using addition	(1-9)	409

Use elimination to solve each system of equations.

1. $-v + w = 7$
$v + w = 1$

A) $(-3, -4)$
B) (1,8)
C) $(-3,4)$
D) (3,4)

2. $y + z = 4$
$y - z = 8$

A) $(6, -2)$
B) $(-2,6)$
C) (2,2)
D) (3,1)

3	Solve systems of equations by eliminating a variable using addition	(1-9)	409

Use elimination to solve each system of equations.

3. $-4x + 5y = 17$
$4x + 6y = -6$

A) $(6, -3)$
B) $(3,6)$
C) $(-3,4)$
D) $(6,3)$

4. $5m - 2p = 24$
$3m + 2p = 24$

A) $(-3, -1)$
B) $(-3,1)$
C) $(6,2)$
D) $(3,1)$

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3	Solve systems of equations by eliminating a variable using addition	(1-9)	409

Use elimination to solve each system of equations.

5. $a + 4b = -4$
$a + 10b = -16$

A) $a = 4, b = -2$
B) $a = -2, b = 4$
C) $a = 4, b = 2$
D) $a = -4, b = -2$

6. $6r - 6t = 6$
$3r - 6t = 15$

A) $r = -4, t = -3$
B) $r = -3, t = -4$
C) $r = -4, t = 3$
D) $r = -3, t = 4$

3	Solve systems of equations by eliminating a variable using addition	(1-9)	409

Use elimination to solve each system of equations.

7. $6c - 9d = 111$
$5c - 9d = 103$

A) (8,7) B) Infinite solution
C) (8, −7) D) No solutions

8. $11f + 14g = 13$
$11f + 10g = 25$

A) (5,3) B) Infinite solution
C) (5, −3) D) No solutions

9. $9x + 6y = 78$
$3x - 6y = -30$

A) (4,5) B) (7,4)
C) (4, −5) D) (4,7)

4	Identify points, lines, and planes.	(25-29)	566

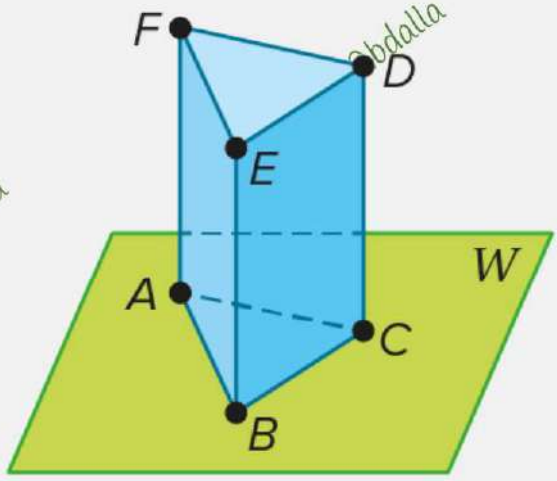
Refer to the figure for Exercises 25–28.

25. How many planes are shown in the figure?
A) 4 B) 5 C) 6 D) 7

26. How many of the planes contain points F and E?
A) 1 B) 2 C) 3 D) 4

27. Name four points that are coplanar.
Which of the following are not coplanar?
A) A, B, E, F B) B, C, D, F
C) B, C, D, E D) A, C, D, F

28. Are points A, B, and C coplanar? Explain.
A) Yes: Points A, B and C lie in plan W
B) Yes: Points A, B and C lie in plan EBCD
C) No: Points A, B and C not lie in same plan
D) No: Points A, B lie in plan W and C not.

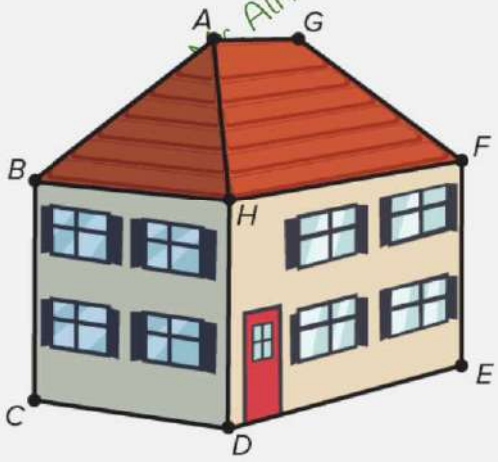


4	Identify points, lines, and planes.	(25-29)	566

29. The roof and exterior walls of a house represent intersecting planes. Using the image, name all the lines that are formed by the intersecting planes.

All of the following lines are lines that are formed by the intersecting planes except:

	$\overleftrightarrow{AB}$		$\overleftrightarrow{CD}$
	$\overleftrightarrow{AG}$		$\overleftrightarrow{DE}$
	$\overleftrightarrow{BC}$		$\overleftrightarrow{DH}$
	$\overleftrightarrow{AH}$		$\overleftrightarrow{EF}$
	$\overleftrightarrow{AC}$		$\overleftrightarrow{FG}$
	$\overleftrightarrow{BH}$		$\overleftrightarrow{FH}$



5	Identify points, lines, and planes.	Ex 1,2,4	562,564

Use the figure to name each of the following.

a. each of the following is a line containing point Q except.

A) $\overleftrightarrow{TR}$ B) $\overleftrightarrow{TQ}$ C) $\overleftrightarrow{RQ}$ D) line c E) $\overleftrightarrow{RV}$

b. each of the following is a line containing point T except.

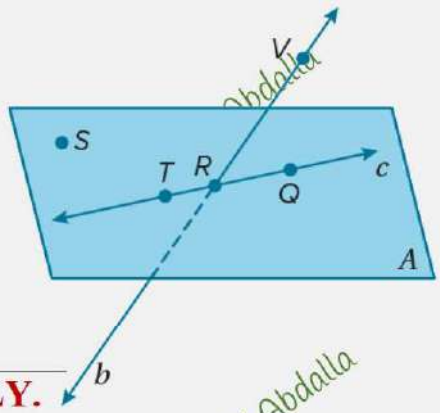
A) $\overleftrightarrow{TR}$ B) $\overleftrightarrow{TQ}$ C) $\overleftrightarrow{RQ}$ D) line c E) $\overleftrightarrow{RV}$

c. which of the following is a line containing point V.
Select that all APPLY.

A) $\overleftrightarrow{VR}$ B) $\overleftrightarrow{TQ}$ C) $\overleftrightarrow{RQ}$ D) line b E) $\overleftrightarrow{RV}$

d. a plane containing point S and point T. **Select that all APPLY.**

A) plane QST B) plane STV C) plane QVS
D) plane VST E) plane A F) plane TRS
G) plane TQS



5	Identify points, lines, and planes.	Ex 1,2,4	562,564

Name the geometric terms modeled by the objects in the picture.

a. The notebook models

A) point B) line C) plane D) space

b. The edges of the notebook model

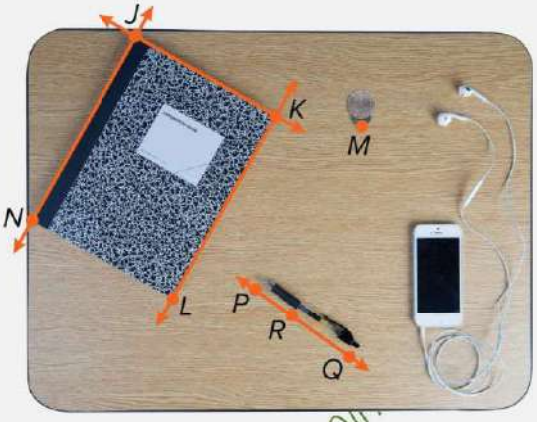
A) point B) line C) plane D) space

c. The black pen models.

A) point B) line C) plane D) space

d. The quarter models.

A) point B) line C) plane D) space



e. Points N, L, and K are: **Select that all APPLY**

A) coplanar B) noncoplanar C) collinear D) noncollinear

e. Points P, Q, and R are: **Select that all APPLY**

A) coplanar B) noncoplanar C) collinear D) noncollinear

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5	Identify points, lines, and planes.	Ex 1,2,4	562,564

Refer to the figure.

a. How many planes appear in this figure?

A) 2 B) 3 C) 5 D) 6

plane P, plane CAG, plane GFA, plane EFA, plane DEA, and plane DCA

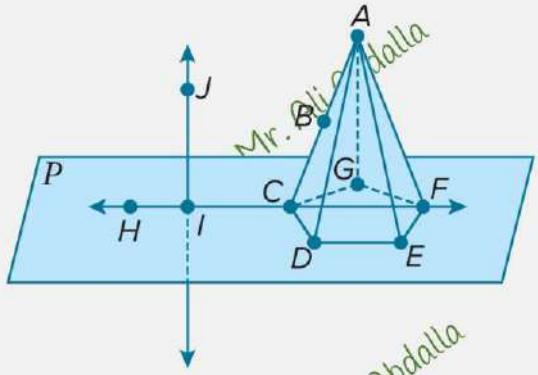
b. Name four points that are collinear.

A) Points H, I, C, and F B) Points H, I, G, and F

C) Points G, C, D, and E D) Points A, B, C, and D

c. Name the intersection of plane GAC and plane P.

A) $\overleftrightarrow{GC}$ B) $\overleftrightarrow{GF}$ C) $\overleftrightarrow{BC}$ D) no intersection



d. At what point do $\overleftrightarrow{JI}$ and $\overleftrightarrow{DC}$ intersect? Explain.

A) point J B) point I C) point C D) no intersection space

It does not appear that these lines intersect. $\overleftrightarrow{DC}$ lies in plane P, but only point I of $\overleftrightarrow{JI}$ lies in plane P.

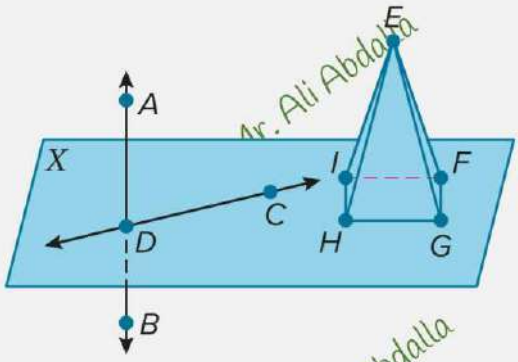
5	**Identify points, lines, and planes.**	**Ex 1,2,4**	**562,564**

Refer to the figure.

a. How many planes appear in this figure?

A) 2 B) 3 C) 5 D) 6

plane X, plane EIH, plane EHG, plane EGF, and plane EIF



b. Name three points that are collinear.

A) Points I, C, and D B) Points H, I, and F
C) Points A, D, and B D) Points A, B, and C

c. Name the intersection of plane EFG and plane X.

A) $\overleftrightarrow{DC}$ B) $\overleftrightarrow{GF}$ C) $\overleftrightarrow{HI}$ D) no intersection

d. At what point do $\overleftrightarrow{AB}$ and $\overleftrightarrow{DC}$ intersect?

A) point B B) point C C) point D D) point A

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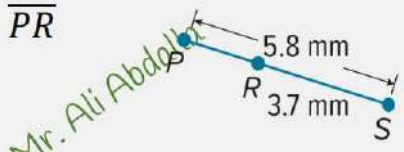
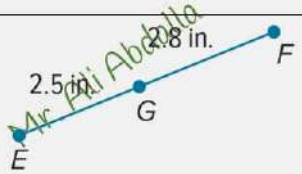
6	**Calculate measures of line segments.**	**(1-9)**	**573**

Find the measure of each segment.

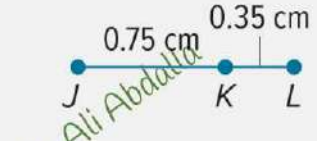
1) $\overline{PR}$



2) $\overline{EF}$



3) $\overline{JL}$

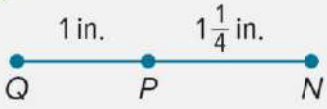


4) $\overline{HJ}$

5) $\overline{AC}$

6) $\overline{SV}$

7) $\overline{NQ}$



8) $\overline{AC}$

9) $\overline{GH}$

7	Analyze figures using the definitions of angles and parts of angles.	(26-33)	622

Use the figure to write another name for each angle.

26. $\angle 9$

A) $\angle SRM$ B) $\angle SRN$ C) $\angle RSM$ D) $\angle SRP$

27. $\angle QPT$

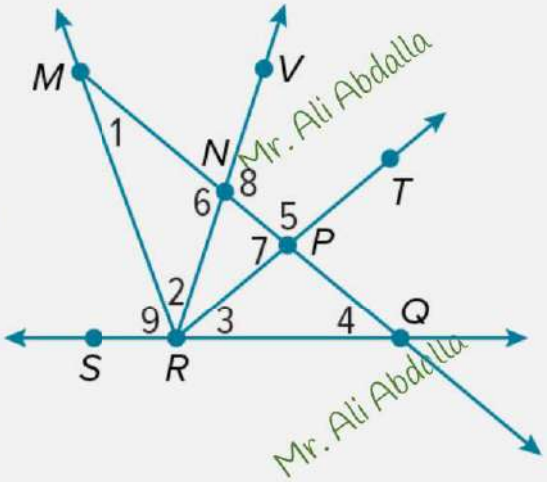
A) $\angle 5$ B) $\angle TPQ$ C) $\angle P$ D) $\angle QPT$

28. $\angle MQS$. (Select that all apply)

A) $\angle 4$ B) $\angle SQM$ C) $\angle MQR$ D) $\angle NQS$
E) $\angle NQR$ F) $\angle PQR$ G) $\angle PQS$ H) $\angle SMQ$

29. $\angle 5$ (Select that all apply)

A) $\angle MPT$ B) $\angle NPT$ C) $\angle NTP$ D) $\angle P$



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7	Analyze figures using the definitions of angles and parts of angles.	(26-33)	622

Use the figure above to name each angle, point, or pair of angles.

30. a point in the interior of $\angle VRQ$ (Select that all apply)

A) P B) T C) M D) S

31. a point in the exterior of $\angle MRT$ (Select that all apply)

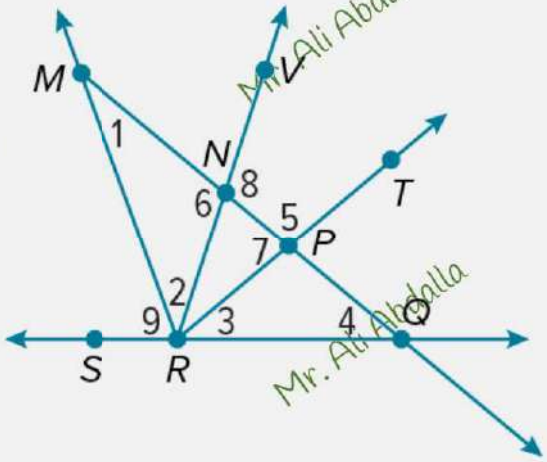
A) V B) N C) S D) Q

32. a pair of angles that share exactly one point.
(Select that all apply)

A) $\angle 6 , \angle 8$ B) $\angle 3 , \angle 9$
C) $\angle 2 , \angle 3$ D) $\angle MNV , \angle QNR$
E) $\angle 2 , \angle 9$ F) $\angle 5 , \angle 7$

33. a pair of angles that share more than one point
(Select that all apply)

A) $\angle MPR , \angle PRQ$ B) $\angle 3 , \angle 9$
C) $\angle 2 , \angle 3$ D) $\angle MNV , \angle QNR$
E) $\angle 2 , \angle 9$ F) $\angle 5 , \angle 7$



8	Calculate angle measures using the definitions of congruent angles and angle bisectors	(12-14)	621

Refer to the figure.

12. Name two adjacent angles. (Select that all apply)

A) $\angle MQN$ and $\angle NQR$ B) $\angle MSN$ and $\angle NSR$

C) $\angle PTR$ and $\angle UTR$ D) $\angle PUS$ and $\angle SUV$

E) $\angle USP$ and $\angle PSN$ F) $\angle USP$ and $\angle NSM$

13. Name two vertical angles. (Select that all apply)

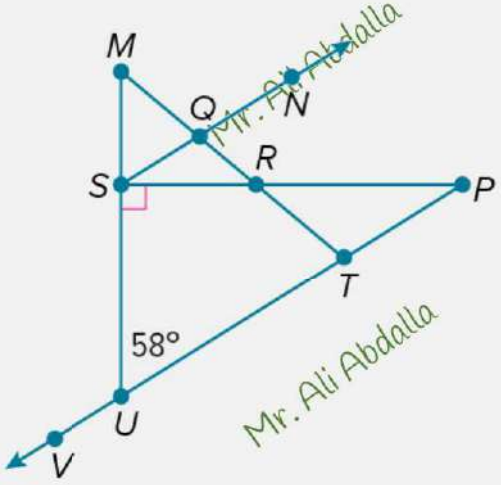
A) $\angle SRQ$ and $\angle TRP$ B) $\angle MQN$ and $\angle SQR$

C) $\angle MQS$ and $\angle NQR$ D) $\angle RSN$ and $\angle NSM$

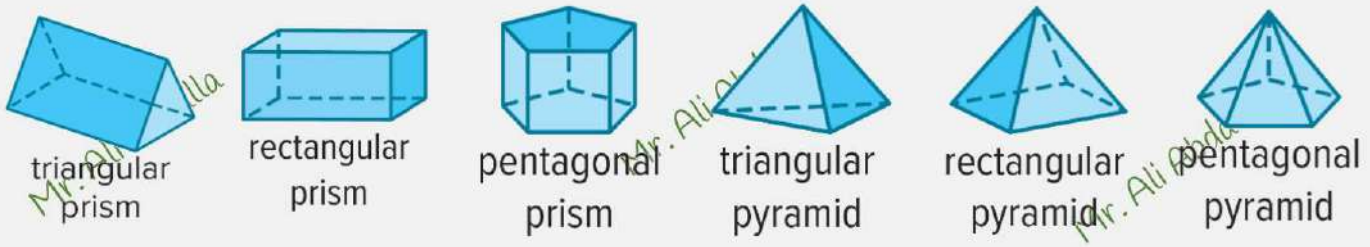
14. Find $m\angle SUV$

A) 112° B) 102°

C) 122° D) 32°



Polyhedra, or *polyhedrons*, are named by the shapes of their bases.

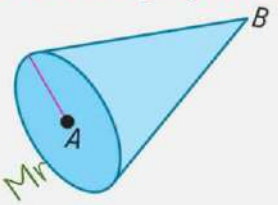


9	Identify and determine characteristics of three-dimensional figures	(1-6)	663

Determine whether each solid is a polyhedron. Then identify the solid. If it is a polyhedron, name the bases, faces, edges, and vertices.

1. A) a polyhedron B) not a polyhedron

A) rectangular prism B) Triangular prism
C) rectangular pyramid D) cone

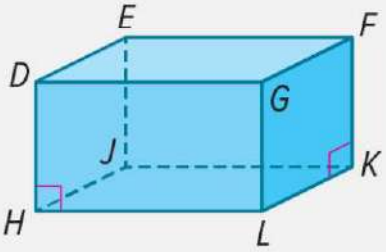


2. A) a polyhedron B) not a polyhedron

A) rectangular prism B) Triangular prism
C) rectangular pyramid D) cone

Bases:
Faces:

Edges:



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Faces:

Edges:

Term 2 - 2022/2023
Garde 9 Advanced

Mr. Ali Abdalla

9	Identify and determine characteristics of three-dimensional figures	(1-6)	663

Identify the three-dimensional figure that can model each object. State whether the model is or is not a polyhedron.

4. A) a polyhedron B) not a polyhedron

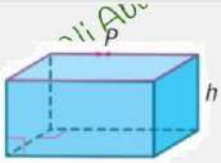
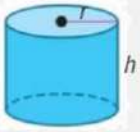
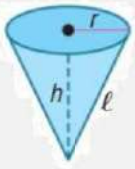
A) rectangular prism B) Triangular prism
C) rectangular pyramid D) cone

5. A) a polyhedron B) not a polyhedron

A) rectangular prism B) Sphere C) Circle D) cone

6. A) a polyhedron B) not a polyhedron

A) rectangular prism B) Triangular prism
C) rectangular pyramid D) cone

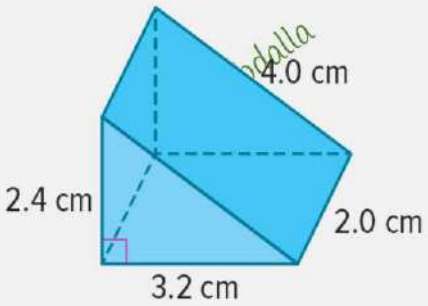
Prism	Right Regular Pyramid	Cylinder	Cone	Sphere
				
$S = Ph + 2B$	$S = \frac{1}{2}P\ell + B$	$S = 2\pi rh + 2\pi r^2$	$S = \pi r\ell + \pi r^2$	$S = 4\pi r^2$
$V = Bh$	$V = \frac{1}{3}Bh$	$V = \pi r^2 h$	$V = \frac{1}{3}\pi r^2 h$	$V = \frac{4}{3}\pi r^3$

S = total surface area V = volume h = height of a solid
P = perimeter of the base B = area of base ℓ = slant height, r = radius

10	Calculate surface areas and volumes	(7-12)	663

Find the surface area and volume of each solid. Round each measure to the nearest tenth, if necessary.

7. Surface area:



Volume:

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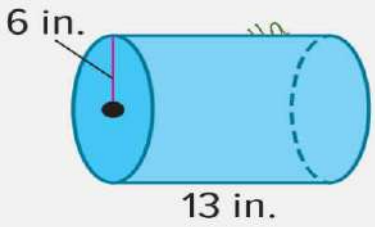
10	Calculate surface areas and volumes	(7-12)	663

Find the surface area and volume of each solid. Round each measure to the nearest tenth, if necessary.

8. Surface area: $S = 2\pi r^2 + 2\pi rh$



Volume: $V = \pi r^2 h$

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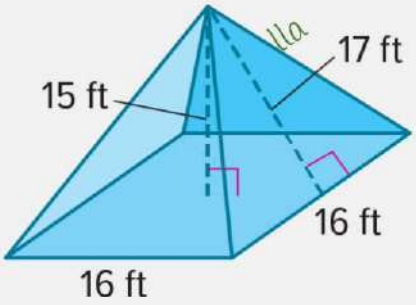
10	Calculate surface areas and volumes	(7-12)	663

Find the surface area and volume of each solid. Round each measure to the nearest tenth, if necessary.

9. Surface area: $S = \frac{1}{2}P\ell + B$

Where P = perimeter of the base, B = area of the base.



Volume: $V = \frac{1}{3}Bh$

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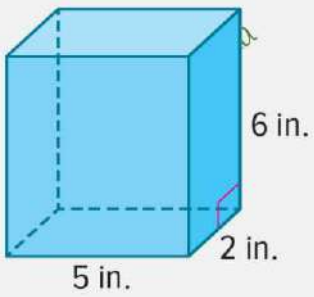
10	Calculate surface areas and volumes	(7-12)	663

Find the surface area and volume of each solid. Round each measure to the nearest tenth, if necessary.

10. Surface area: $S = Ph + 2B$,

Where P = perimeter of the base, B = area of the base.

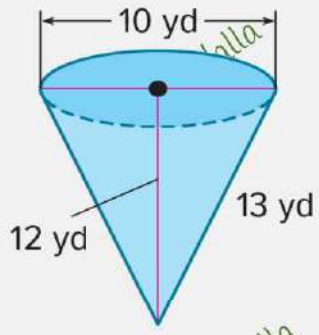


Volume: $V = Bh$

10	Calculate surface areas and volumes	(7-12)	663

Find the surface area and volume of each solid. Round each measure to the nearest tenth, if necessary.

11. Surface area: $S = \pi r\ell + \pi r^2$



Volume: $V = \frac{1}{3}\pi r^2 h$

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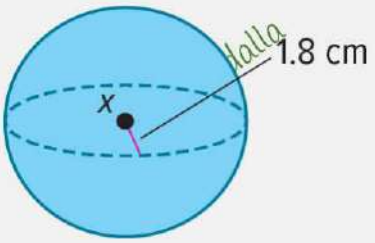
10 Calculate surface areas and volumes (7-12) 663

Find the surface area and volume of each solid. Round each measure to the nearest tenth, if necessary.

12. Surface area: $S = 4\pi r^2$



Volume: $V = \frac{4}{3}\pi r^3$

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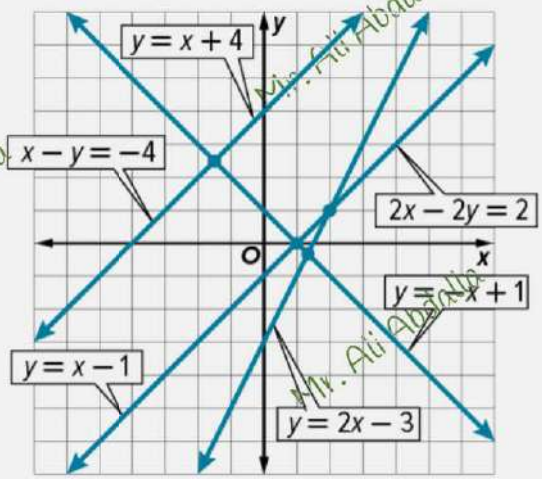
11	Solve systems of equations by graphing.	(1-8)	395

Use the graph to determine the number of solutions the system has. Then state whether the system of equations is consistent or inconsistent and if it is independent or dependent.

1.	$y = x - 1$ $y = -x + 1$	A) consistent and independent B) consistent and dependent C) consistent D) inconsistent
2.	$x - y = -4$ $y = x + 4$	A) consistent and independent B) consistent and dependent C) consistent D) inconsistent
3.	$y = x - 4$ $2x - 2y = 2$	A) consistent and independent B) consistent and dependent C) consistent D) inconsistent
4.	$y = 2x - 3$ $2x - 2y = 2$	A) consistent and independent B) consistent and dependent C) consistent D) inconsistent



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11	Solve systems of equations by graphing.	(1-8)	395

Determine the number of solutions the system has. Then state whether the system of equations is consistent or inconsistent and if it is independent or dependent.

5.	$y = \frac{1}{2}x$ $y = x + 2$			A) consistent and independent B) consistent and dependent C) consistent D) inconsistent
6.	$4x - 6y = 12$ $-2x + 3y = -6$			A) consistent and independent B) consistent and dependent C) consistent D) inconsistent

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11	Solve systems of equations by graphing.	(1-8)	395

Determine the number of solutions the system has. Then state whether the system of equations is consistent or inconsistent and if it is independent or dependent.

7.	$8x - 4y = 16$ $-5x - 5y = 5$			A) consistent and independent B) consistent and dependent C) consistent D) inconsistent
8.	$2x + 3y = 10$ $4x + 6y = 12$			A) consistent and independent B) consistent and dependent C) consistent D) inconsistent

12	Solve systems of equations by eliminating a variable using addition	(10-15)	409

Use elimination to solve each system of equations.

10. $3j + 4k = 23.5$
$8j - 4k = 4$

A) $j = 4, k = 2.5$

B) $j = 2.5, k = 4$

C) $j = -4, k = 2.5$

D) $j = 4, k = -2$

11. $-3x - 8y = -24$
$3x - 5y = 4.5$

A) $\left(4, \frac{3}{2}\right)$

B) $\left(\frac{3}{2}, 4\right)$

C) $(4,3)$

D) $(3,4)$

12	Solve systems of equations by eliminating a variable using addition	(10-15)	409

Use elimination to solve each system of equations.

12. $6x - 2y = 1$
$10x - 2y = 5$

A) $\left(2, \frac{5}{2}\right)$

B) $\left(1, \frac{5}{2}\right)$

C) $(1,5)$

D) $(3, -2)$

13. $x - y = 1$
$x + y = 3$

A) $(1, 2)$

B) $(3, 2)$

C) $(4,3)$

D) $(2,1)$

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12	Solve systems of equations by eliminating a variable using addition	(10-15)	409

Use elimination to solve each system of equations.

14. $-x + y = 1$
$x + y = 11$

A) $(2,3)$

B) $(5,4)$

C) $(5,6)$

D) $(-3, -2)$

15. $x + 4y = 11$
$x - 6y = 11$

A) $(3, 2)$

B) $(7, 1)$

C) $(11,0)$

D) $(3,6)$

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13	Apply the definition of congruent line segments to find missing values.	(10-15)	573

Find the value of the variable and YZ if Y is between X and Z.

10. $XY = 11,\ YZ = 4c,\ XZ = 83$

11. $XY = 6b,\ YZ = 8b,\ XZ = 175$

12. $XY = 7a,\ YZ = 5a,\ XZ = 6a + 24$

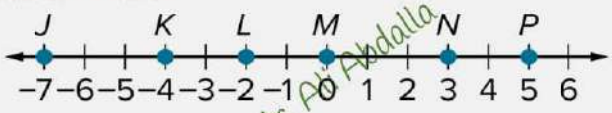
13. $XY = 5.5,\ YZ = 2c,\ XZ = 8.9$

14. $XY = 5n,\ YZ = 2n,\ XZ = 91$

15. $XY = 4w,\ YZ = 6w,\ XZ = 12w - 8$

14	Find the length of a line segment on a number line.	(1-6)	581

Use the number line to find each measure.



1. JL

2. JK

3. KP

4. NP

5. JP

6. LN

15	Find the distance between two points on the coordinate plane	(31-36)	583

Find the distance between each pair of points. Round to the nearest tenth, if necessary.

31. $M(-4, 9), N(-5, 3)$

32. $C(2, 4), D(5, 7)$

Distance $= \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

33. $A(5, 1), B(3, 6)$

34. $V(4, 4), X(5, 8)$

35. $S(6, 4), T(3, 2)$

36. $M(-1, 8), N(-3, 3)$

16	Find a point on a directed line segment on a number line that is a given fractional distance from the initial point.	1,2,3,7,8,9	589

Refer to the number line.

$$B = x_1 + \frac{a}{b}(x_2 - x_1)$$

1. Find the coordinate of point B that is $\frac{1}{4}$ of the distance from M to J.

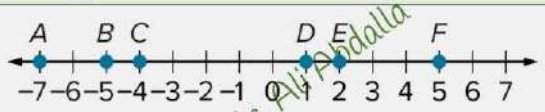
2. Find the coordinate of point C that is $\frac{7}{8}$ of the distance from M to J.

3. Find the coordinate of point D that is $\frac{7}{16}$ of the distance from M to J.

16	**Find a point on a directed line segment on a number line that is a given fractional distance from the initial point.**	**1,2,3,7,8,9**	**589**

Refer to the number line.

$B = x_1 + \frac{a}{b}(x_2 - x_1)$



7. Find the coordinate of point G that is $\frac{2}{3}$ of the distance from B to D.

8. Find the coordinate of point H that is $\frac{1}{5}$ of the distance from C to F.

9. Find the coordinate of point J that is $\frac{1}{6}$ of the distance from A to E.

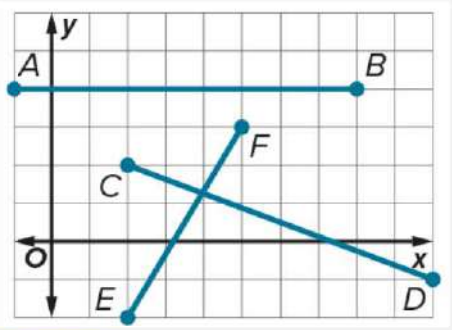
17	**Find a point that partitions a directed line segment on the coordinate plane in a given ratio**	**(4-6)**	**597**

4. Find point X on $\overline{AB}$ such that the ratio of AX to XB is 1: 3

Ratio is $m:n$ then $x = \frac{nx_1 + mx_2}{m+n}$ and $y = \frac{ny_1 + my_2}{m+n}$

5. Find point Y on $\overline{CD}$ such that the ratio of DY to YC is 2: 1

6. Find point Z on $\overline{EF}$ such that the ratio of EZ to ZF is 2: 3



answers

4. $\left(\frac{5}{4}, 4\right)$

5. $\left(\frac{14}{3}, 1\right)$

6. $\left(\frac{16}{5}, 0\right)$

18	Calculate angle measures using the characteristics of complementary and supplementary angles	(1-6)	631

1. Find the measures of two supplementary angles if the difference between the measures of the two angles is 35°.

Other solution:

2. ∠E and ∠F are complementary. The measure of ∠E is 54° more than the measure of ∠F. Find the measure of each angle.

Let $m(\angle F) = x$ then $m(\angle E) = x + 54$

$x + (x + 54) = 90 \Rightarrow 2x + 54 = 90 \Rightarrow 2x = 36$

$\Rightarrow x = 18$

$m(\angle F) = 18°$ and $m(\angle E) = 18 + 54 = 72°$

Other solution:

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18	Calculate angle measures using the characteristics of complementary and supplementary angles	(1-6)	631

3. The measure of an angle's supplement is 76° less than the measure of the angle. Find the measures of the angle and its supplement.

Let x be the angle, which means $180 - x$ is its supplement.

$x - (180 - x) = 76 \Rightarrow x - 180 + x = 76$

$2x = 256$

$x = 128$

supplement = 52

Other solution:

4. ∠Q and ∠R are complementary. The measure of ∠Q is 26° less than the measure of ∠R. Find the measure of each angle.

Let $m(\angle R) = x$ then $m(\angle Q) = x - 26$, ∠Q and ∠R complementary.

$x + (x - 26) = 90 \Rightarrow 2x - 26 = 90 \Rightarrow 2x = 116 \Rightarrow x = 58$

$m(\angle R) = 58°$ and $m(\angle Q) = 58 - 26 = 32°$

18	Calculate angle measures using the characteristics of complementary and supplementary angles	(1-6)	631

5. The measure of the supplement of an angle is three times the measure of the angle. Find the measures of the angle and its supplement.

Let x be the angle, which means $3x$ is its supplement.

$x + 3x = 180 \Rightarrow 4x = 180 \Rightarrow x = 45$

Measure of the angle is 45 and measure of its supplement = 135

6. The bascule bridge shown is opening from its horizontal position to its fully vertical position. So far, the bridge has lifted 35° in 21 seconds. At this rate, how much longer will it take for the bridge to reach its vertical position?

The vertical position of the bridge would make an angle of 90°. To find the remaining distance in degrees the bridge has to travel, subtract from 90°.

$90 - 35 = 55$, Set up a proportion and solve.

$\frac{35^\circ}{21\ sec} = \frac{55^\circ}{x} \Rightarrow 35x = 1155 \Rightarrow x = 33$ seconds

It will take the bridge 33 seconds to reach its vertical position.

Other solution:

$\frac{35}{21} \times 90 = 54\ sec$

It will take 54 sec to reach its vertical position.

Then the remaining time is 54-21=33 sec

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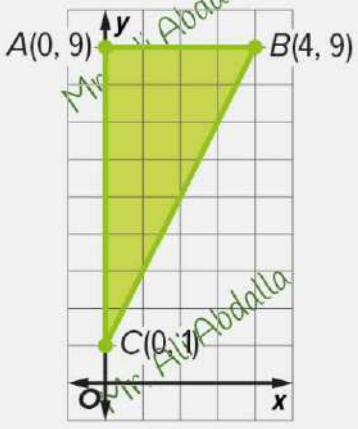
19	Find perimeters, circumferences, and areas of two-dimensional geometric shapes	(1-6)	641

Find the perimeter or circumference and area of each figure if each unit on the graph measures 1 centimeter. Round answers to the nearest tenth, if necessary.

1.



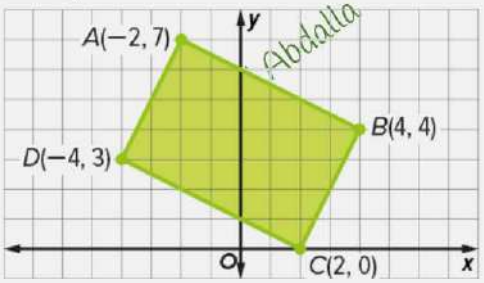
Perimeter:

Area

19	Find perimeters, circumferences, and areas of two-dimensional geometric shapes	(1-6)	641

Find the perimeter or circumference and area of each figure if each unit on the graph measures 1 centimeter. Round answers to the nearest tenth, if necessary.

2.



Perimeter:

Area

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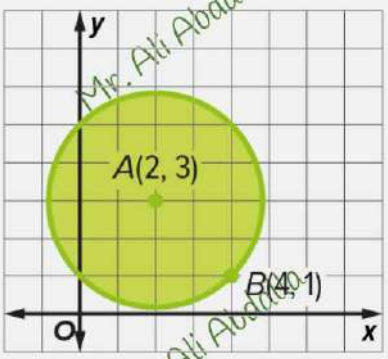
19	Find perimeters, circumferences, and areas of two-dimensional geometric shapes	(1-6)	641

Find the perimeter or circumference and area of each figure if each unit on the graph measures 1 centimeter. Round answers to the nearest tenth, if necessary.

3.



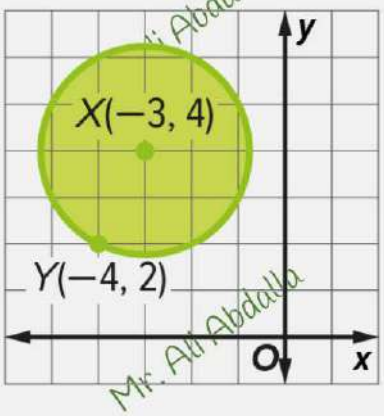
circumference:

Area

19	Find perimeters, circumferences, and areas of two-dimensional geometric shapes	(1-6)	641

Find the perimeter or circumference and area of each figure if each unit on the graph measures 1 centimeter. Round answers to the nearest tenth, if necessary.

4.



circumference:

Area

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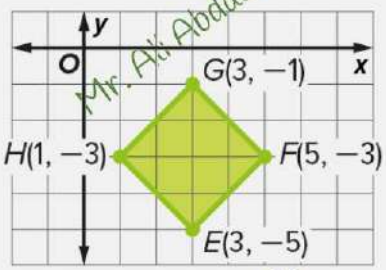
19	Find perimeters, circumferences, and areas of two-dimensional geometric shapes	(1-6)	641

Find the perimeter or circumference and area of each figure if each unit on the graph measures 1 centimeter. Round answers to the nearest tenth, if necessary.

5.



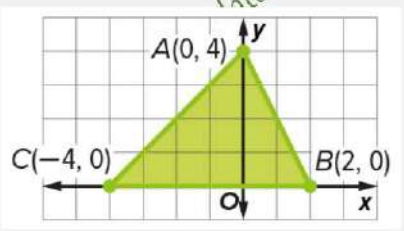
perimeter:

Area

19	Find perimeters, circumferences, and areas of two-dimensional geometric shapes	(1-6)	641

Find the perimeter or circumference and area of each figure if each unit on the graph measures 1 centimeter. Round answers to the nearest tenth, if necessary.

6.



perimeter:

Area

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20	Solve systems of linear inequalities by graphing.	(15-17)	423

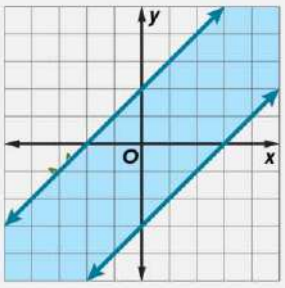
Write a system of inequalities for each graph.

15. A) $x + y < 2$
$x - y \leq 3$

B) $x + y \leq 2$
$x - y \geq 3$

C) $x + y \leq 2$
$x - y \leq 3$

D) $x + y \leq 2$
$x - y > 3$



16. A) $x + y < 0$
$y \geq x$

B) $x + y > 0$
$x - y \geq 0$

C) $x - y > 0$
$x + y < 0$

D) $x - y < 0$
$y > x$

20	Solve systems of linear inequalities by graphing.	(15-17)	423

Write a system of inequalities for each graph.

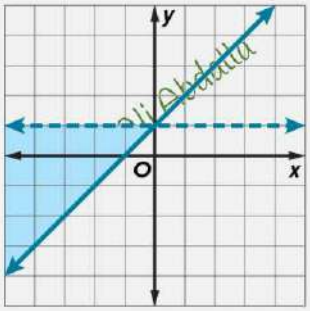
17.

A) $y - x \geq 1$
$y < 1$

B) $x - y > -1$
$y \geq x$

C) $y - x > 1$
$y < 1$

D) $y - x > 1$
$x < 1$



Part 3 (Free response questions)

21	Solve systems of equations by eliminating a variable using multiplication and addition	(1-9)	417

Use elimination to solve each system of equations.

1. $x + y = 2$
$-3x + 4y = 15$

2. $x - y = -8$
$7x + 5y = 16$

21	Solve systems of equations by eliminating a variable using multiplication and addition	(1-9)	417

Use elimination to solve each system of equations.

3. $x + 5y = 17$
$-4x + 3y = 24$

4. $6x + y = -39$
$3x + 2y = -15$

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21	Solve systems of equations by eliminating a variable using multiplication and addition	(1-9)	417

Use elimination to solve each system of equations.

5. $2x + 5y = 11$
$4x + 3y = 1$

6. $3x - 3y = -6$
$-5x + 6y = 12$

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21	Solve systems of equations by eliminating a variable using multiplication and addition	(1-9)	417

Use elimination to solve each system of equations.

7. $3x + 4y = 29$
$6x + 5y = 43$

8. $8x + 3y = 4$
$-7x + 5y = -34$

9. $8x + 3y = -7$
$7x + 2y = -3$

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22	Find perimeters, circumferences, and areas of two-dimensional geometric shapes	(7-9)	641

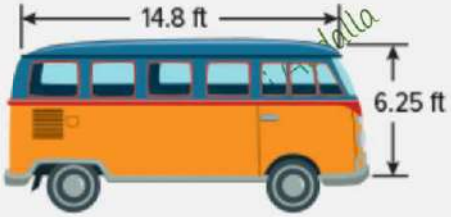
Use a two-dimensional model and the dimensions provided to calculate the perimeter or circumference and area of each object. Round to the nearest tenth, if necessary.

7. Circumference:

Area:

9. Perimeter:

Area:



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22	Find perimeters, circumferences, and areas of two-dimensional geometric shapes	(7-9)	641

Use a two-dimensional model and the dimensions provided to calculate the perimeter or circumference and area of each object. Round to the nearest tenth, if necessary.

8. Perimeter

Area

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23	Find the coordinates of the midpoint or endpoint of a line segment on the coordinate plane	(33-38)	606

Find the coordinates of the missing endpoint if B is the midpoint of $\overline{AC}$.

33. $C(-5, 4)$, $B(-2, 5)$

34. $A(1, 7)$, $B(-3, 1)$

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23	Find the coordinates of the midpoint or endpoint of a line segment on the coordinate plane	(33-38)	606

Find the coordinates of the missing endpoint if B is the midpoint of $\overline{AC}$.

35. $A(-4, 2), B(6, -1)$

36. $C(-6, -2), B(-3, -5)$

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23	Find the coordinates of the midpoint or endpoint of a line segment on the coordinate plane	(33-38)	606

Find the coordinates of the missing endpoint if B is the midpoint of $\overline{AC}$.

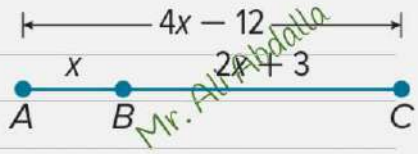
37. $A(4, -0.25), B(-4, 6.5)$

38. $C\left(\frac{5}{3}, -6\right), B\left(\frac{8}{3}, 4\right)$

Mr. Ali Abdalla

Find the value of x if U is between T and V, $TU = 7x + 35$, $UV = 4(x + 7)$, and $\overline{TU} \cong \overline{UV}$.

Find the value of x and BC if B is between A and C, $AC = 4x - 12$, $AB = x$, and $BC = 2x + 3$.



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Find the distance between the two points on a coordinate plane.

$A(5, 1)$ and $B(-3, -3)$

$AB = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2} = \sqrt{(\quad - \quad)^2 + (\quad - \quad)^2}$

A $4\sqrt{5}$

B $4\sqrt{3}$

C $2\sqrt{2}$

D $2\sqrt{3}$

On a number line, point S is located at -3 and point T is located at 9. Where is point R located on $\overline{ST}$ if the ratio of SR to RT is 3: 4?

$$R = \frac{nx_1 + mx_2}{m + n}$$

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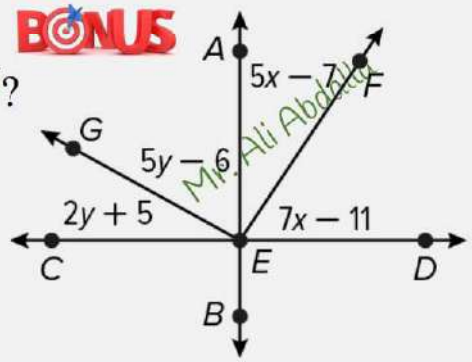
The coordinates of A and B on a number line are -7 and 9. The coordinates of C and D on a number line are -4 and 12. Are $\overline{AB}$ and $\overline{CD}$ congruent? If yes, what is the length of each segment?

BONUS

Find the value of y will make $\overleftrightarrow{AB}$ perpendicular to $\overleftrightarrow{CD}$?

BONUS



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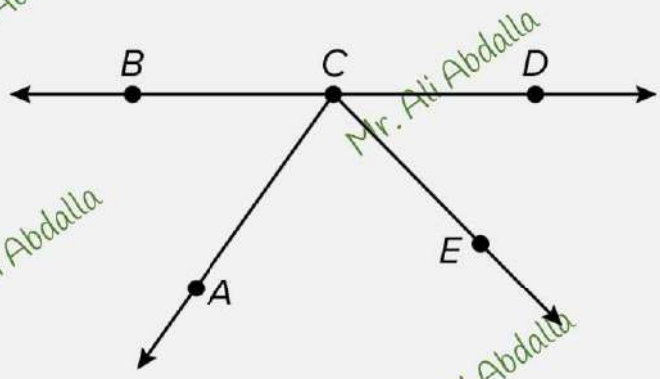
In the figure, $\overrightarrow{CD}$ and $\overrightarrow{CB}$ are opposite rays, and $\overrightarrow{CA}$ bisects $\angle BCE$. Suppose $m\angle ECA = 14x - 2$ and $m\angle ACB = 12x + 8$. What is $m\angle ECA$?

BONUS



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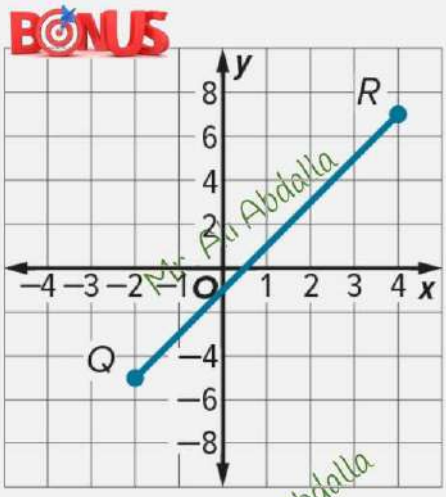
Find P on $\overline{QR}$ that is of $\frac{1}{6}$ the distance from Q to R.



$$x = x_1 + \frac{a}{b}(x_2 - x_1)$$

$$y = y_1 + \frac{a}{b}(y_2 - y_1)$$