

شكراً لتحميلك هذا الملف من موقع المناهج الإماراتية



مراجعة امتحانية وفق الهيكل الوزاري ريفيل المسار العام

موقع المناهج ← المناهج الإماراتية ← الصف العاشر العام ← رياضيات ← الفصل الثاني ← الملف

تاريخ نشر الملف على موقع المناهج: 2024-02-29 06:41:54 | اسم المدرس: Faraji Joud

التواصل الاجتماعي بحسب الصف العاشر العام



روابط مواد الصف العاشر العام على تلغرام

[الرياضيات](#)

[اللغة الانجليزية](#)

[اللغة العربية](#)

[التربية الاسلامية](#)

المزيد من الملفات بحسب الصف العاشر العام والمادة رياضيات في الفصل الثاني

[حل تجميعية أسئلة وفق الهيكل الوزاري](#)

1

[تجميعية أسئلة وفق الهيكل الوزاري ريفيل](#)

2

[نموذج الهيكل الوزاري ريفيل المسار العام](#)

3

[نموذج الهيكل الوزاري بريدج المسار العام](#)

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[كتاب الطالب كامل \(على شكل أجزاء\)](#)

5

Grade 10 General-Reveal Mathematics

EoT 2 Final Exam coverage 2023/2024

Grade	10
الصف	
Stream	General
المسار	العام
Number of MCQ عدد الأسئلة الموضوعية	15
Marks of MCQ درجة الأسئلة الموضوعية	4
Number of FRQ عدد الأسئلة المقالية	4
Marks per FRQ الدرجات للأسئلة المقالية	(5-13)
Type of All Questions نوع كافة الأسئلة	MCQ/ الأسئلة الموضوعية FRQ/ الأسئلة المقالية
Maximum Overall Grade الدرجة القصوى الممكنة	100
Exam Duration - مدة الامتحان	150 minutes
Mode of Implementation - طريقة التطبيق	SwiftAssess & Paper-Based
Calculator	Allowed
الآلة الحاسبة	مسموحة

Done by
Ms. Joud Faraji

Module 11

1

Multiply a polynomial by a monomial

1 to 16

641

Example 1

M11L2

Simplify each expression.

1. $b(b^2 - 12b + 1)$

2. $f(f^2 + 2f + 25)$

3. $-3m^3(2m^3 - 12m^2 + 2m + 25)$

4. $2j^2(5j^3 - 15j^2 + 2j + 2)$

5. $2pr^2(2pr + 5p^2r - 15p)$

6. $4t^3u(2t^2u^2 - 10tu^4 + 2)$

Example 2

Simplify each expression.

7. $-3(5x^2 + 2x + 9) + x(2x - 3)$

8. $a(-8a^2 + 2a + 4) + 3(6a^2 - 4)$

9. $-4d(5d^2 - 12) + 7(d + 5)$

10. $-9g(-2g + g^2) + 3(g^3 + 4)$

Module 11

1

Multiply a polynomial by a monomial

1 to 16

641

Example 2

M11L2

Simplify each expression.

$$11. 2j(7j^2k^2 + jk^2 + 5k) - 9k(-2j^2k^2 + 2k^2 + 3j)$$

$$12. 4n(2n^3p^2 - 3np^2 + 5n) + 4p(6n^2p - 2np^2 + 3p)$$

Example 3

13. NUMBER THEORY The sum of the first n whole numbers is given by the expression $\frac{1}{2}(n^2 + n)$.

Expand the equation by multiplying, then find the sum of the first 12 whole numbers.

14. COLLEGE Troy's grandfather gave him \$700 to start his college savings account. Troy's grandfather also gives him \$40 each month to add to the account. Troy's mother gives him \$50 each month, but has been doing so for 4 fewer months than Troy's grandfather. Write a simplified expression for the amount of money Troy has received m months after his mother started giving him money.

Module 11

1

Multiply a polynomial by a monomial

1 to 16

641

M11L2

Example 3

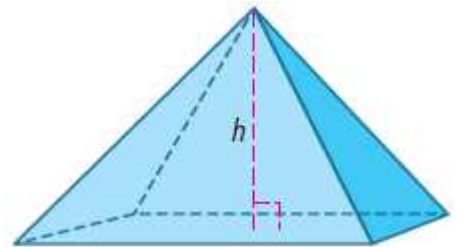
15. MARKET Sophia went to the farmers' market to purchase some vegetables. She bought peppers and potatoes. The peppers were \$0.39 each and the potatoes were \$0.29 each. She spent \$3.88 on vegetables, and bought 4 more potatoes than peppers. If x = the number of peppers, write and solve an equation to find out how many of each vegetable Sophia bought.

16. GEOMETRY The volume of a pyramid can be found by multiplying the area of its base B by one-third of its height. The area of the rectangular base of a pyramid is given by the polynomial equation

$$B = x^2 - 4x - 12.$$

a. Write a polynomial equation to represent the volume of the pyramid V if its height is 10 meters.

b. Find the volume of the pyramid if $x = 12$ m.



Module 11

2

Multiply binomials by using the Distributive Property and the FOIL Method

18 to 59

650, 651

Example 5

M11L3

Find each product.

18. $(2y - 11)(y^2 - 3y + 2)$

19. $(4a + 7)(9a^2 + 2a - 7)$

20. $(m^2 - 5m + 4)(m^2 + 7m - 3)$

21. $(x^2 + 5x - 1)(5x^2 - 6x + 1)$

22. $(3b^3 - 4b - 7)(2b^2 - b - 9)$

23. $(6z^2 - 5z - 2)(3z^3 - 2z - 4)$

Mixed Exercises

Find each product.

24. $(m + 4)(m + 1)$

25. $(x + 2)(x + 2)$

26. $(b + 3)(b + 4)$

27. $(t + 4)(t - 3)$

28. $(r + 1)(r - 2)$

29. $(n - 5)(n + 1)$

Module 11

2

Multiply binomials by using the Distributive Property and the FOIL Method

18 to 59

650, 651

30. $(3c + 1)(c - 2)$

31. $(2x - 6)(x + 3)$

M11L3

32. $(d - 1)(5d - 4)$

33. $(2\ell + 5)(\ell - 4)$

34. $(3n - 7)(n + 3)$

35. $(q + 5)(5q - 1)$

36. $(3b + 3)(3b - 2)$

37. $(2m + 2)(3m - 3)$

38. $(4c + 1)(2c + 1)$

39. $(5a - 2)(2a - 3)$

40. $(4h - 2)(4h - 1)$

41. $(x - y)(2x - y)$

42. $(w + 4)(w^2 + 3w - 6)$

43. $(t + 1)(t^2 + 2t + 4)$

Module 11

2

Multiply binomials by using the Distributive Property and the FOIL Method

18 to 59

650, 651

M11L3

44. $(k - 4)(k^2 + 5k - 2)$

45. $(m + 3)(m^2 + 3m + 5)$

46. $(2x + 1)(x^2 - 3x - 4)$

47. $(3b + 4)(2b^2 - b + 4)$

Simplify.

48. $(m + 2)[(m^2 + 3m - 6) + (m^2 - 2m + 4)]$

49. $[(t^2 + 3t - 8) - (t^2 - 2t + 6)](t - 4)$

Find each product.

50. $(a - 2b)^2$

51. $(3c + 4d)^2$

52. $(x - 5y)^2$

53. $(2r - 3t)^3$

54. $(5g + 2h)^3$

55. $(4y + 3z)(4y - 3z)^2$

Module 11

2

Multiply binomials by using the Distributive Property and the FOIL Method

18 to 59

650, 651

M11L3

56. **PRECISION** Write each expression as a simplified polynomial.

a. $(3c - 2)(4c^2 - c^3 + 3)$

b. $(5x - y)(3x^2 - 2xy) + (2x + y)(y^2 - 4x^2)$

c. $-2x(3 - x^2)(2x + 4)$

d. $(z - 1)(2 - z)(z + 1)$

57. **ART** The museum where Julia works plans to have a large wall mural painted in its lobby. First, Julia wants to paint a large frame around where the mural will be. She only has enough paint for the frame to cover 100 square feet of wall surface. The mural's length will be 5 feet longer than its width, and the frame will be 2 feet wide on all sides.



a. Write an expression for the area of the mural.

b. Write an expression for the area of the frame.

c. Write and solve an equation to find how large the mural can be.

Module 11

2

Multiply binomials by using the Distributive Property and the FOIL Method

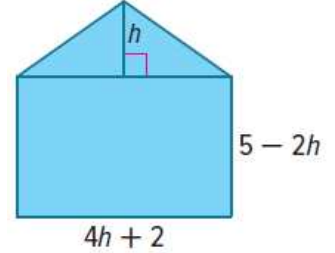
18 to 59

650, 651

M11L3

58. **STRUCTURE** The dimensions of the composite figure shown are given in terms of the triangle's height, h .

a. Write and simplify a quadratic expression for the area of the figure.



b. If $h = 1.42$ units, what is the area of the figure? Round to the nearest hundredth, if necessary.

59. **STRUCTURE** Consider the expression $x^{4p+1}(x^{1-2p})^{2p+3}$.

a. Use the laws of exponents to simplify the expression.

b. Find any integer values of p that make this expression equal to 1 for all values of x .

Module 11

3

Find squares of sums and differences

1 to 10

657

Examples 1 and 3

M11L4

Find each product.

1. $(a + 10)(a - 10)$

2. $(b - 6)(b - 6)$

3. $(h + 7)^2$

4. $(x + 6)^2$

5. $(8 - m)^2$

6. $(9 - 2y)^2$

7. $(2b + 3)^2$

8. $(5t - 2)^2$

9. $(8h - 4n)^2$

10. $(4m - 5n)^2$

Module 11

4

Factor polynomials by using the Distributive Property.

1 to 10

665

Example 1

M11L5

Use the Distributive Property to factor each polynomial.

1. $16t - 40y$

2. $30v + 50x$

3. $2k^2 + 4k$

4. $5z^2 + 10z$

5. $4a^2b^2 + 2a^2b - 10ab^2$

6. $5c^2v - 15c^2v^2 + 5c^2v^3$

Example 2

7. **PHYSICS** The distance d an object falls after t seconds is given by $d = 16t^2$ (ignoring air resistance). To find the height of an object launched upward from ground level at a rate of 32 feet per second, use the expression $32t - 16t^2$, where t is the time in seconds. Factor the expression.

Module 11

4

Factor polynomials by using the Distributive Property.

1 to 10

665

M11L5

Example 2

8. SWIMMING POOL The area of a rectangular swimming pool is given by the expression $12w - w^2$, where w is the width of one side. Factor the expression.

9. VERTICAL JUMP Your vertical jump height is measured by subtracting your standing reach height from the height of the highest point you can reach by jumping without taking a running start. Typically, NBA players have vertical jump heights of up to 34 inches. If an NBA player jumps this high, his height in inches above his standing reach height after t seconds can be modeled by the expression $162t - 192t^2$. Factor the expression.

10. PETS Conner is playing with his dog. He tosses a dog treat upward with an initial velocity of 13.7 meters per second. His hand starts at the same height as the dog's mouth, so the height of the treat above the dog's mouth in meters after t seconds is given by the expression $13.7t - 4.9t^2$. Factor the expression.

Module 11

5

Factorize binomials that are the difference of squares

1 to 14

679

M11L7

Examples 1 and 2

Factor each polynomial.

1. $q^2 - 121$

2. $r^4 - k^4$

3. $w^4 - 625$

4. $r^2 - 9t^2$

5. $h^4 - 256$

6. $2x^3 - x^2 - 162x + 81$

7. $x^2 - 4y^2$

8. $3c^3 + 2c^2 - 147c - 98$

9. $f^3 + 2f^2 - 64f - 128$

10. $r^3 - 5r^2 - 100r + 500$

Module 11

5

Factorize binomials that are the difference of squares

1 to 14

679

M11L7

Examples 1 and 2

Factor each polynomial.

11. $3t^3 - 7t^2 - 3t + 7$

12. $a^2 - 49$

13. $4m^3 + 9m^2 - 36m - 81$

14. $3x^3 + x^2 - 75x - 25$

Module 5

6

Know the precise definition of circle and find the circumferences of circles.

1 to 15

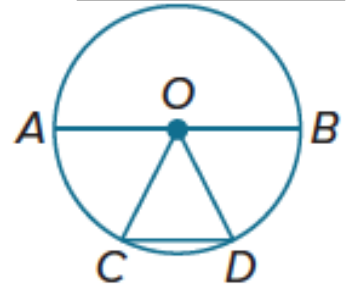
227

M5L1

Example 1

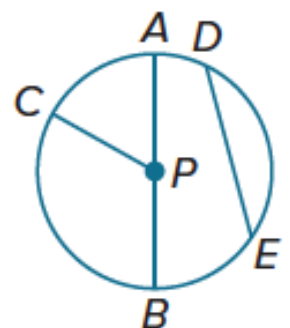
For Exercises 1-3, refer to the circle at the right.

1. Name the circle.
2. Name the radii of the circle.
3. Name the chords of the circle.



For Exercises 4-8, refer to the circle at the right.

4. Name the circle.
5. Name the radii of the circle.
6. Name the chords of the circle.
7. Name a diameter of the circle.
8. Name a radius not drawn as part of a diameter.



Module 5

6	Know the precise definition of circle and find the circumferences of circles.	1 to 15	227
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M5L1

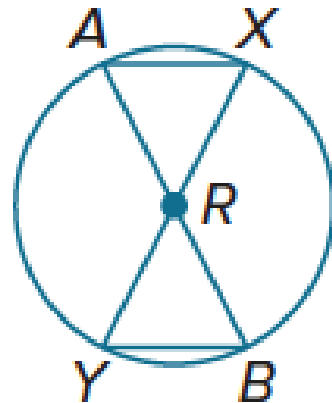
Example 2

For Exercises 9-11, refer to $\odot R$.

9. If $AB = 18$ millimeters, find AR .

10. If $RY = 10$ inches, find AR and AB .

11. Is $AB \cong XY$? Explain.

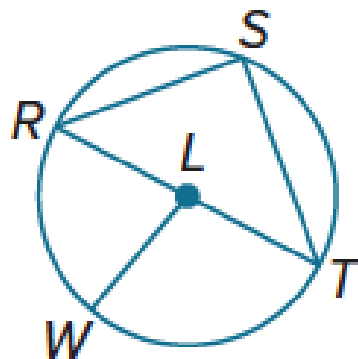


For Exercises 12-14, refer to $\odot L$.

12. Suppose the radius of the circle is 3.5 yards. Find the diameter.

13. If $RT = 19$ meters, find LW .

14. If $LT = 4.2$ inches, what is the diameter of $\odot L$?



Example 3

15. TIRES A bicycle has tires with a diameter of 26 inches. Find the radius and circumference of each tire. Round your answer to the nearest hundredth, if necessary.

Module 5

7

Find arc lengths and convert between degrees and radians

20 to 41

238

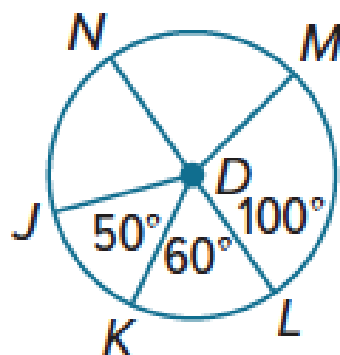
M5L2

Example 5

Use $\odot D$ to find the length of each arc to the nearest hundredth. NL is a diameter.

20. LM if the radius is 5 inches

21. MN if the diameter is 3 yards



22. KL if $JD = 7$ centimeters

23. NK if $NL = 12$ feet

24. KM if $DM = 9$ millimeters

25. JK if $KD = 15$ inches

Example 6

Write each degree measure in radians as a multiple of π .

26. 120°

27. 45°

28. 30°

29. 90°

30. 180°

31. 225°

Module 5

7

Find arc lengths and convert between degrees and radians

20 to 41

238

M5L2

Example 7

Write each radian measure in degrees.

32. $\frac{3\pi}{4}$ radians

33. $\frac{3\pi}{2}$ radians

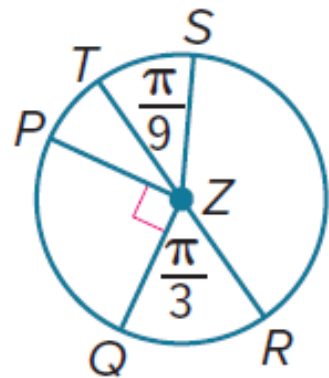
34. $\frac{\pi}{3}$ radians

35. $\frac{5\pi}{6}$ radians

36. 2π radians

37. $\frac{\pi}{12}$ radians

Example 8

Use $\odot Z$ to find the length of each arc to the nearest hundredth.38. QR , if $PZ = 12$ feet39. ST , if $SZ = 8$ inches40. PQ , if $TZ = 14$ centimeters41. PT , if $TR = 20$ inches

Module 5

8

Describe relationships between inscribed angles, and use those relationships to solve problems

1 to 12

251

M5L4

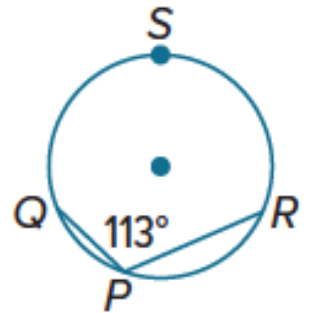
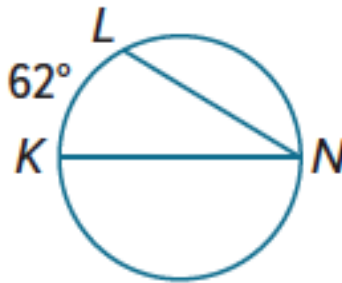
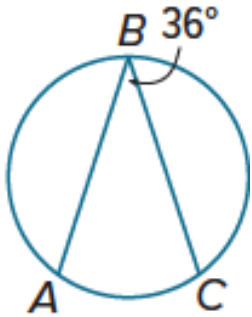
Example 1

Find each measure.

1. $m\widehat{AC}$

2. $m\angle N$

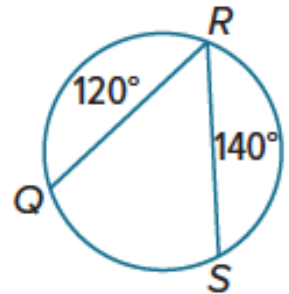
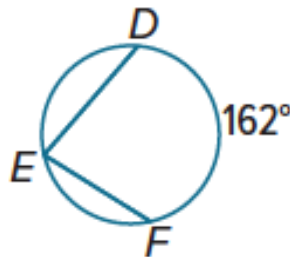
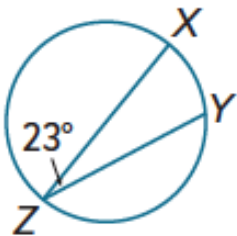
3. $m\widehat{QSR}$



4. $m\widehat{XY}$

5. $m\angle E$

6. $m\angle R$

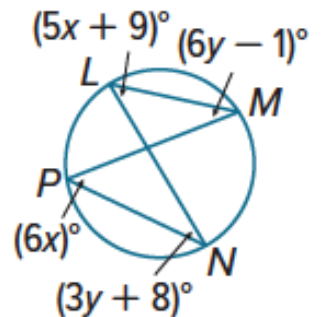


Example 2

Find each measure.

7. $m\angle N$

8. $m\angle L$



Module 5			
8	Describe relationships between inscribed angles, and use those relationships to solve problems	1 to 12	251

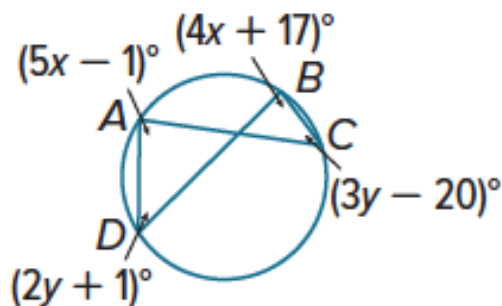
M5L4

Example 2

Find each measure.

9. $m\angle C$

10. $m\angle A$



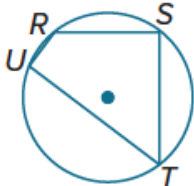
Example 3

PROOF Write the specified type of proof.

11. paragraph proof

Given: $m\angle T = \frac{1}{2}m\angle S$

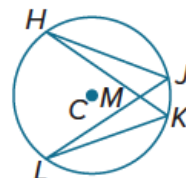
Prove: $m\widehat{TUR} = 2m\widehat{URS}$



12. two-column proof

Given: $\odot C$

Prove: $\triangle KML \sim \triangle JMH$



Module 5

9	Identify relationships in inscribed polygons, and use those relationships to solve problems	13 to 25	252
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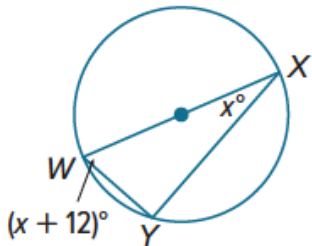
M5L4

Example 4

Find each value.

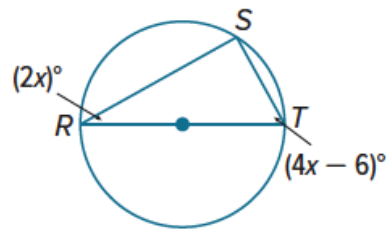
13. x

14. $m\angle W$



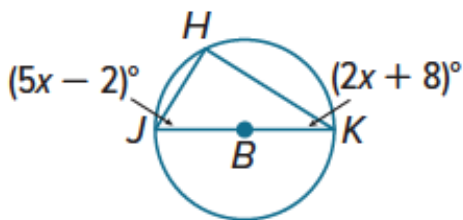
15. x

16. $m\angle T$



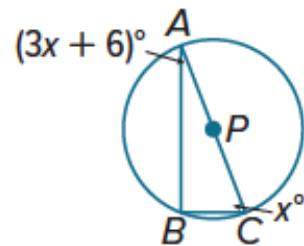
17. $m\angle J$

18. $m\angle K$



19. $m\angle A$

20. $m\angle C$

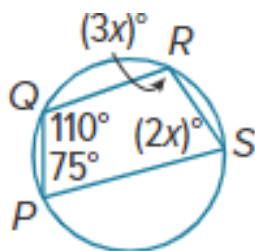


Example 5

Find each measure.

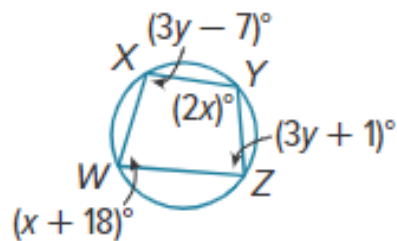
21. $m\angle R$

22. $m\angle S$



23. $m\angle W$

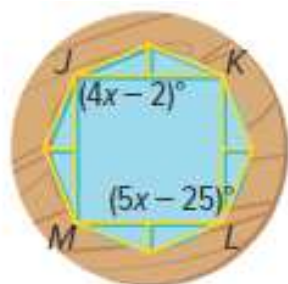
24. $m\angle X$



Module 5			
9	Identify relationships in inscribed polygons, and use those relationships to solve problems	13 to 25	252

M5L4

25. USE ESTIMATION Darius bought a circular picture frame with a geometric design. The frame has a quadrilateral inscribed in a circle.



- a. Estimate the value of x .
- b. Find the exact value of x and $m\angle J$.

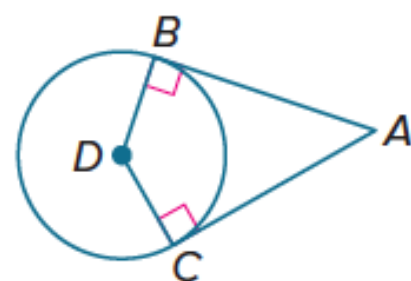
c. Is your answer reasonable? Justify your argument.

10	Solve problems involving circumscribed polygons	19 to 26	260
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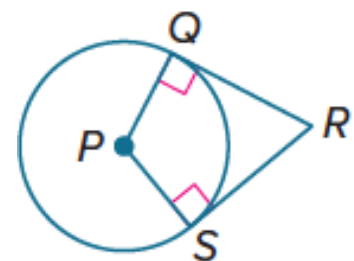
M5L5

Example 5

19. If $m\angle BDC = 12x^\circ$ and $m\angle A = (4x + 4)^\circ$, find $m\angle A$.



20. If $m\angle QPS = (15x + 8)^\circ$ and $m\angle R = (10x - 3)^\circ$, find $m\angle R$.



Module 5

10

Solve problems involving circumscribed polygons

19 to 26

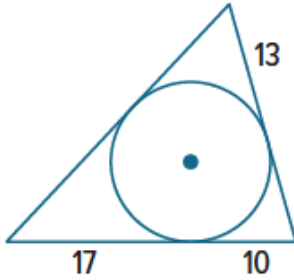
260

M5L5

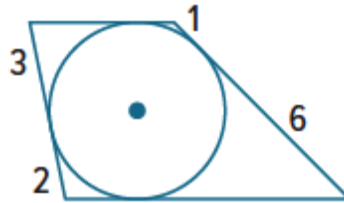
Example 6

Each polygon is circumscribed about a circle. Find the perimeter of each polygon.

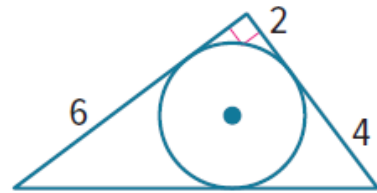
21.



22.

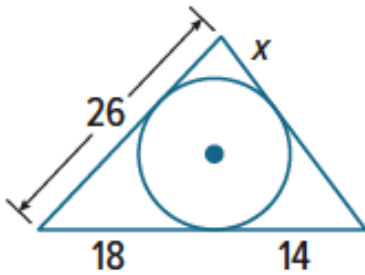


23.

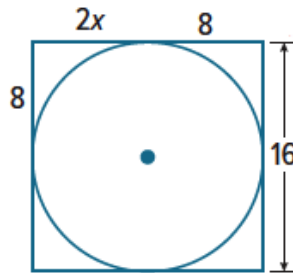


Each polygon is circumscribed about a circle. Find the value of x . Then find the perimeter of each polygon.

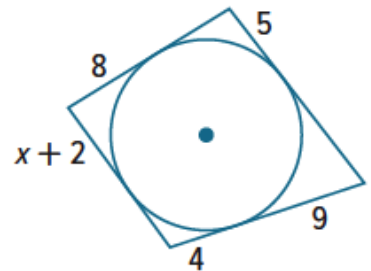
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25.



26.

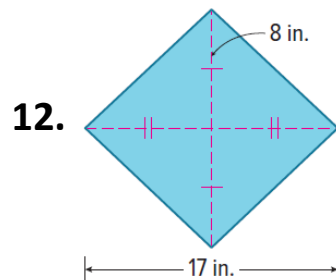
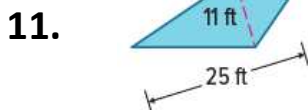
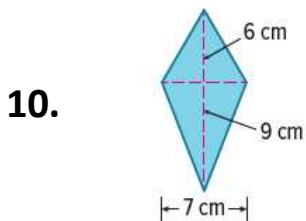
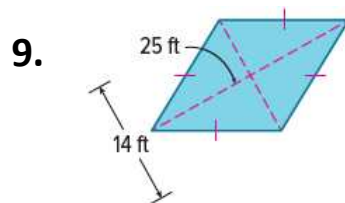
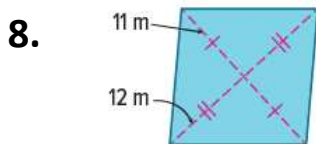
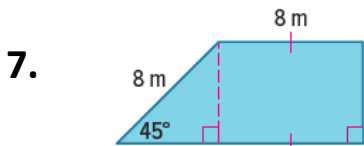
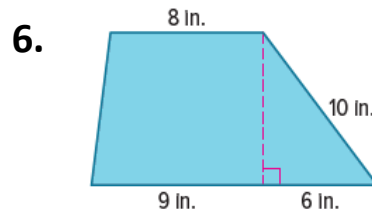
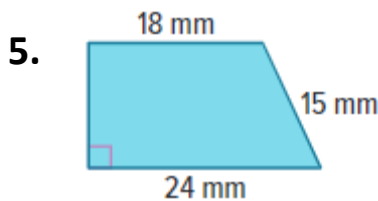
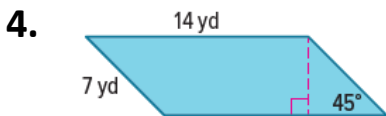
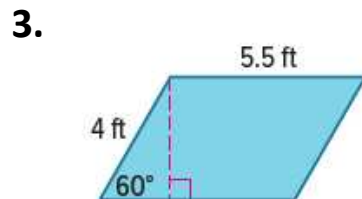
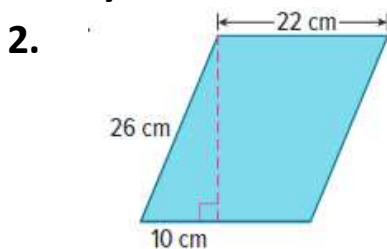
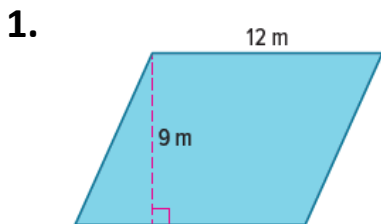


Module 6			
11	Find perimeters and areas of parallelograms	1 to 12	289
12	Find the areas of kites and rhombi	1 to 12	289

M6L1

Examples 1, 2, 4–6

Find the area of each parallelogram, trapezoid, rhombus, or kite. Round to the nearest tenth, if necessary.



Module 6

13

Find areas of circles

1 to 12

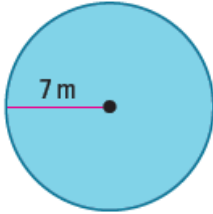
305

M6L3

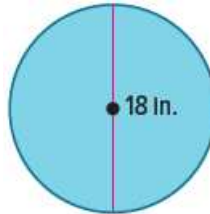
Example 1

Find the area of each circle. Round to the nearest tenth.

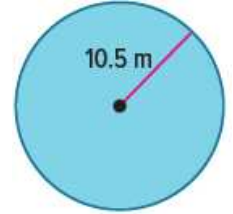
1.



2.



3.



4. **DINING** Maricela is making a tablecloth for a circular table that has a diameter of 8 feet.

a. Find the area of the tabletop. Round your answer to the nearest tenth.

b. If a square yard of fabric costs \$13.99, what is the minimum Maricela will need to spend to make the tablecloth?

5. **GAMES** Kiyoshi is making circular tiles to display houses for his role-playing game. Each tile has a radius of 2 inches and is being made out of balsa wood that costs \$1.99 per square foot.

a. Find the area of a single tile. Round your answer to the nearest tenth.

b. How much will it cost Kiyoshi to make 30 tiles?

Module 6

13

Find areas of circles

1 to 12

305

M6L3

Example 1

6. PORTHOLES A circular window on a ship is designed with a radius of 8 inches. What is the area of glass needed for the window? Round your answer to the nearest hundredth.

Example 2

Find the indicated measure. Round to the nearest tenth.

- 7.** Find the diameter of a circle with an area of 94 square millimeters.

- 8.** The area of a circle is 132.7 square centimeters. Find the diameter of the circle.

- 9.** The area of a circle is 112 square inches. Find the radius of the circle.

- 10.** Find the diameter of a circle with an area of 1134.1 square millimeters.

- 11.** The area of a circle is 706.9 square inches. Find the radius of the circle.

- 12.** Find the radius of a circle with an area of 2827.4 square feet.

Module 6

14

Find surface areas of prisms and cylinders

Find surface areas of pyramids and cones

1 to 16

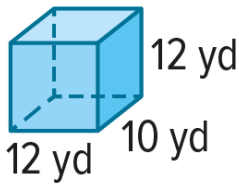
315, 316

M6L4

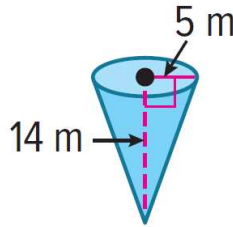
Examples 1, 2, 4, and 5

Find the lateral area and surface area of each solid. Round to the nearest tenth, if necessary. Assume that a base that appears to be a regular polygon is a regular polygon.

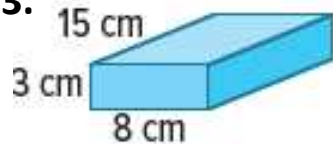
1.



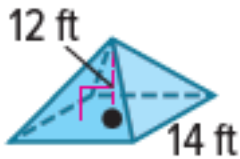
2.



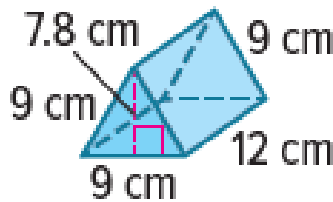
3.



4.



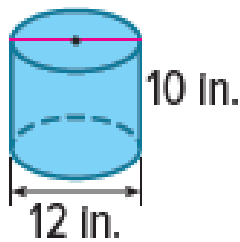
5.



6.



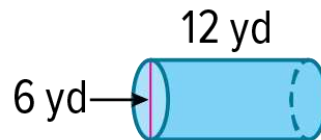
7.



8.



9.



Module 6

14

Find surface areas of prisms and cylinders

Find surface areas of pyramids and cones

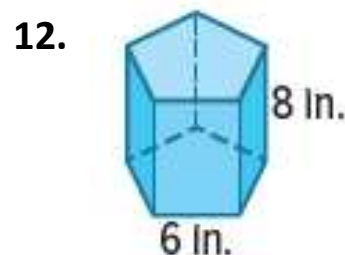
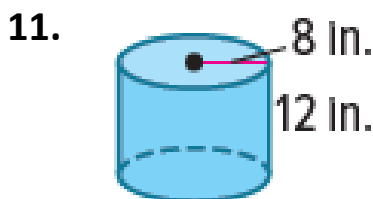
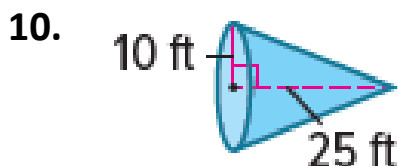
1 to 16

315, 316

M6L4

Examples 1, 2, 4, and 5

Find the lateral area and surface area of each solid. Round to the nearest tenth, if necessary. Assume that a base that appears to be a regular polygon is a regular polygon.



Examples 3 and 6

13. **PAINTING** Greg is painting the four walls of his bedroom and the ceiling.

a. If the height of the walls is x and the edge length of the square ceiling is $2x$, approximate the surface area Greg will be painting in terms of x .

b. Approximate the surface area that will be painted to the nearest tenth if $x = 8$ feet.

Module 6

14

Find surface areas of prisms and cylinders

Find surface areas of pyramids and cones

1 to 16

315, 316

M6L4

14. MANUFACTURING A food distribution manufacturer is developing a new cylindrical package with a cardboard bottom and sides and a plastic lid. They are evaluating the cost of manufacturing based on the amount of cardboard used.

a. If the radius of the package is x and the height is $x + 4$, approximate the surface area of the package that will be cardboard in terms of x and π .

b. Approximate the surface area of the package that will be cardboard to the nearest tenth if $x = 6$ centimeters.

15. CAMPING A company that manufactures camping gear is designing a new tent shaped like a square pyramid with sidewalls made of a waterproof material.

a. If the base of the tent is x units long and the slant height of the walls is $1.5x$ units, approximate the surface area of the sidewalls in terms of x .

b. Approximate the amount of material needed to manufacture the sidewalls if $x = 9$ feet.

Module 6			
14	Find surface areas of prisms and cylinders	1 to 16	315, 316
	Find surface areas of pyramids and cones		
			M6L4

16. **TOPIARY** Davea is planning to prune her landscaping bushes into topiaries shaped like cones.

a. The radius of the bush is $\frac{1}{2}x$ units and the slant height is $4x$ units. Approximate the lateral area of one topiary in terms of x and π .

b. A frost is expected, and Davea is making plastic slipcovers to protect her new topiaries. Approximate the surface area of one slipcover to the nearest tenth if the slipcover does not cover the base and $x = 0.75$ meter.

15	Identify the shapes of all cross sections formed by cuts to a solid.	1 to 7	323
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Example 1

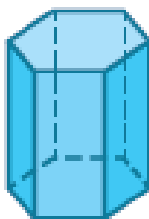
Describe each plane of symmetry for each solid.

M6L5

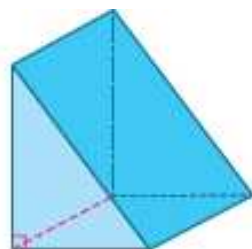
1.



2.



3.



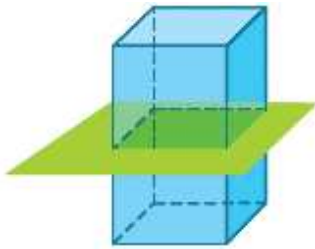
Module 6

15	Identify the shapes of all cross sections formed by cuts to a solid.	1 to 7	323
			M6L5

Example 2

Identify the shape of each cross section.

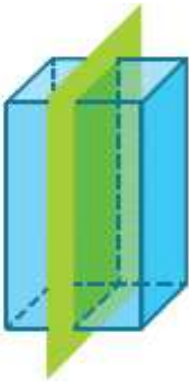
4.



5.



6.



7.



Module 5

16

Find measures in intersecting circles and prove relationships between circles

33 to 51

229, 230

M5L1

Determine whether the circles in the figures below appear to be *congruent*, *concentric*, or *neither*.

33.



34.

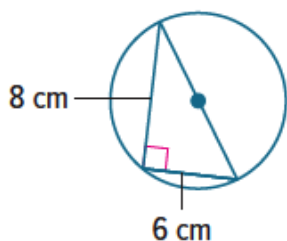


35.

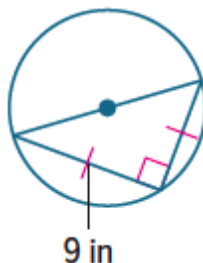


For each circle, find the exact circumference in terms of π .

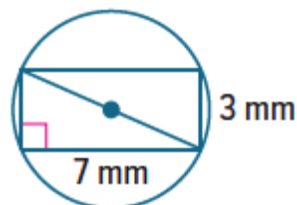
36.



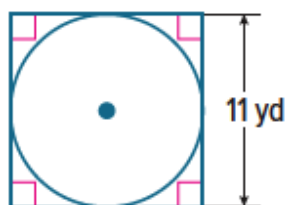
37.



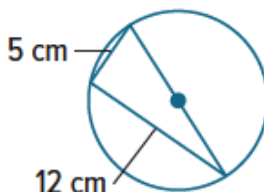
38.



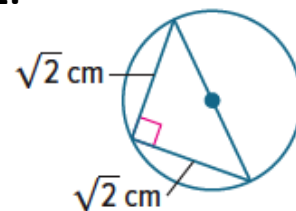
39.



40.



41.



Module 5

16

Find measures in intersecting circles and prove relationships between circles

33 to 51

229, 230

M5L1

42. **PROOF** Write a paragraph proof to prove Theorem 10.1.

Given: $\odot D$ and $\odot E$

Prove: $\odot D \sim \odot E$



44. **WHEELS** Zack is designing wheels for a concept car. The diameter of the wheel is 18 inches. Zack wants to make spokes in the wheel that run from the center of the wheel to the rim. In other words, each spoke is a radius of the wheel. How long are these spokes?

45. **PRECISION** Kathy slices through a circular cake. The cake has a diameter of 14 inches. The slice that Kathy made is straight and has a length of 11 inches. Did Kathy cut along a *radius*, a *diameter*, or a *chord* of the circle?

46. **REASONING** Three identical circular coins are lined up in a row as shown. The distance between the centers of the first and third coins is 3.2 centimeters. What is the radius of one of these coins?



Module 5

16

Find measures in intersecting circles and prove relationships between circles

33 to 51

229, 230

M5L1

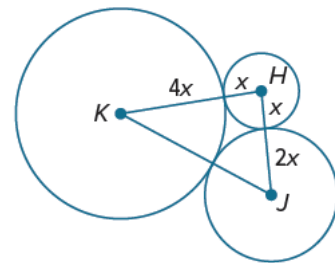
47. EXERCISE HOOPS Taiga wants to make a circular loop that he can twirl around his body for exercise. He will use a tube that is 2.5 meters long.

a. What will be the diameter of Taiga's exercise hoop? Round your answer to the nearest thousandth of a meter.

b. What will be the radius of Taiga's exercise hoop? Round your answer to the nearest thousandth of a meter.

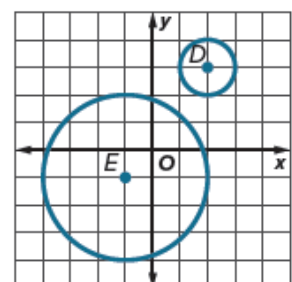
48. WRITE How can we describe the relationships that exist between circles and line segments?

49. PERSEVERE The sum of the circumferences of circles H , J , and K shown at the right is 56π units. Find KJ .



50. ANALYZE Is the distance from the center of a circle to a point in the interior of a circle *sometimes*, *always*, or *never* less than the radius of the circle? Justify your argument.

51. CREATE Design a sequence of transformations that can be used to prove that $\odot D$ is similar to $\odot E$.



Module 5

17

Solve problems using the relationships between arcs, chords, and diameters

1 to 16

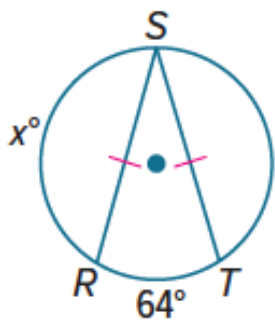
245

M5L3

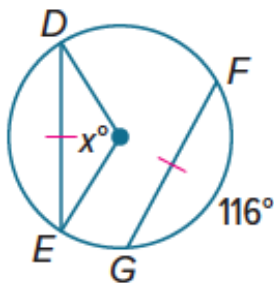
Examples 1 and 2

REGULARITY Find the value of x .

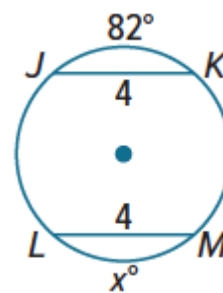
1.



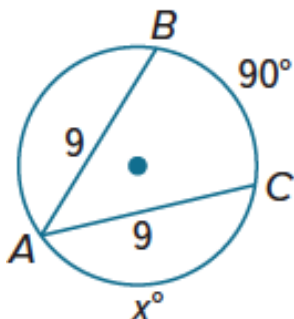
2.



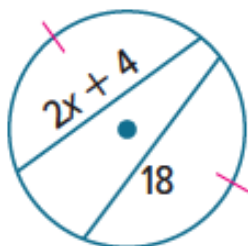
3.



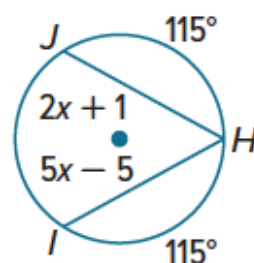
4.



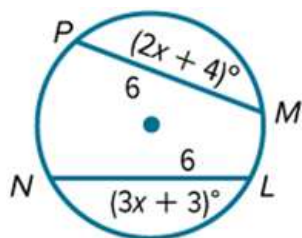
5.



6.



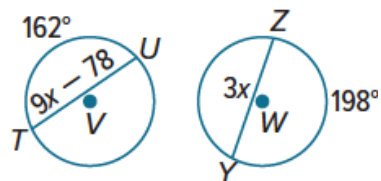
7.



8. $\odot M \cong \odot P$



9. $\odot V \cong \odot W$



Module 5

17

Solve problems using the relationships between arcs, chords, and diameters

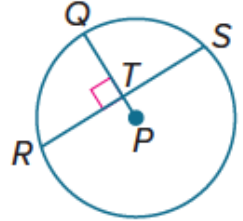
1 to 16

245

M5L3

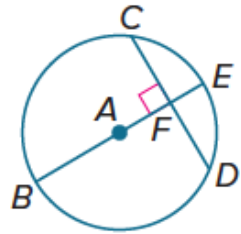
Examples 3 and 4

In $\odot P$, $PQ = 13$ and $RS = 24$. Find each measure.

10. RT 11. PT 12. TQ 

In $\odot A$, $EB = 12$, $CD = 8$, and $m\widehat{CD} = 90^\circ$. Find each measure.

Round to the nearest hundredth, if necessary.

13. $m\widehat{DE}$ 14. FD 15. AF 

16. USE A MODEL For security purposes a jewelry company prints a hidden watermark on the logo of its official documents. The watermark is a chord located 0.7 cm from the center of a circular ring that has a 2.5 cm radius. To the nearest tenth, what is the length of the chord?

Module 5

18	Find areas of composite figures	8 to 13	297
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M6L2

Examples 3 and 4

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

<p>8.</p>	<p>9.</p>	<p>10.</p>
<p>11.</p>	<p>12.</p>	<p>13.</p>

Module 5

19

Write polynomials in standard form

1 to 14

635

M11L1

Example 1

Determine whether each expression is a polynomial. If it is a polynomial, find the degree and determine whether it is a *monomial*, *binomial*, or *trinomial*.

1. $\frac{5y^3}{x^2} + 4x$

2. 21

3. $c^4 - 2c^2 + 1$

4. $d + 3d^c$

5. $a - a^2$

6. $5n^3 + nq^3$

Example 2

Write each polynomial in standard form. Identify the leading coefficient.

7. $5x^2 - 2 + 3x$

8. $8y + 7y^3$

9. $4 - 3c - 5c^2$

10. $-y^3 + 3y - 3y^2 + 2$

11. $11t + 2t^2 - 3 + t^5$

12. $2 + r - r^3$

13. $\frac{1}{2}x - 3x^4 + 7$

14. $-9b^2 + 10b - b^6$