

## أسئلة مراجعة وفق الهيكل الوزاري بدون الحل



### تم تحميل هذا الملف من موقع المناهج الإماراتية

موقع المناهج ← المناهج الإماراتية ← الصف الحادي عشر العام ← رياضيات ← الفصل الثالث ← ملفات متنوعة ← الملف

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ملفات اكتب للمعلم اكتب للطالب الاختبارات الكترونية الاختبارات ا حلول ا عروض بوربوينت ا أوراق عمل  
منهج انجليزي ا ملخصات وتقارير ا مذكرات وبنوك ا الامتحان النهائي للمدرس

المزيد من مادة  
رياضيات:

إعداد: مصطفى عبد العزيز

### التواصل الاجتماعي بحسب الصف الحادي عشر العام



صفحة المناهج  
الإماراتية على  
فيسبوك

الرياضيات

اللغة الانجليزية

اللغة العربية

التربية الاسلامية

المواد على تلغرام

### المزيد من الملفات بحسب الصف الحادي عشر العام والمادة رياضيات في الفصل الثالث

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## الأسئلة الموضوعية ( الكتروني )

1	<b>Classify sampling methods a bias in samples and survey questions</b>	Exercises (4-10)	P375
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Identify each sample or question as biased or unbiased. Explain your reasoning.

4) A random sample of eight people is asked to select their favorite food for a survey about Americans' food preferences.

5. Every tenth student at band camp is asked to name his or her favorite band for a survey about the campers.

6. Every fifth person entering a museum is asked to name his or her favorite type of book to read for a survey about reading interests of people in the city.

7. Do you think that the workout facility needs a new treadmill and racquetball court?

8. Which is your favorite type of music, pop, or country?

9. Are you a member of any after-school clubs?

10. Don't you agree that employees should pack their lunch?

2	<b>Classify and determine study types</b>	Example 4	P373
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**Example 4:**

A research team wants to test new football uniform designs and their appeal to young adults. They randomly select 100 young adults to view the different uniforms. The research team observes and records the reactions to the uniforms.

**Step 1** What is the purpose of the study?

The purpose is to determine if the new uniforms will be appealing to young adults.

**Step 2** Does this situation represent a survey, an experiment, or an observational study?

This is a(n) observational study because the participants are observed without being affected by the study.

**Step 3** Identify the sample and population.

The sample is the 100 young adults involved in the study.

The population is all young adults.

3	<b>Classify variables and analyze probability distributions to determine expected outcomes.</b>	Example1	P394
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**Example 1 Classify Random Variables**

Classify each random variable as discrete or continuous.

- a. the number of songs on a random selection of smartphones  
The number of songs on a random selection of smartphones is discrete because the number of songs is countable.
- b. the air pressure in a random selection of basketballs  
Air pressure is continuous because it can take on any value within a certain range. The air pressure of a standard basketball can be anywhere between 7.5 and 8.5 pounds per square inch.

4	<b>Analyze standardized data and distributions by using z-values.</b>	Exercises (8-10)	P401
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Find the z-value for each standard normal distribution.

8.  $\sigma = 9.8$ ,  $X = 55.4$ , and  $\mu = 68.34$

9.  $\sigma = 11.6$ ,  $X = 42.80$ , and  $\mu = 68.2$

10.  $\sigma = 11.9$ ,  $X = 119.2$ , and  $\mu = 112.4$

5	<b>Analyze normally distributed variables by using the Empirical Rule.</b>	Exercises (7)	P401
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7. A normal distribution has a mean of 186.4 and a standard deviation of 48.9.

a. What range of values represents the middle 99.7% of the data?

b. What percent of data will be greater than 235.3?

c. What range of values represents the upper 2.5% of the data?

Find an angle with a positive measure and an angle with a negative measure that are coterminal with each angle.

16.  $65^\circ$

17.  $-75^\circ$

18.  $230^\circ$

19.  $45^\circ$

20.  $60^\circ$

21.  $370^\circ$

22.  $-90^\circ$

23.  $420^\circ$

24.  $30^\circ$

25.  $55^\circ$

26.  $80^\circ$

27.  $110^\circ$

28.  $\frac{2\pi}{5}$

29.  $\frac{5\pi}{6}$

30.  $-\frac{3\pi}{2}$

31.  $\frac{2\pi}{3}$

32.  $\frac{5\pi}{2}$

33.  $-\frac{3\pi}{4}$

7	<b>Convert between degree and radian measures and find arc lengths by using central angles</b>	Example 6	P420
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### Example 6 Find Arc Length

**TRAFFIC** A traffic circle, or roundabout, is a circular roadway at the intersection of two or more streets that allows cars to travel through more continuously than a traffic light or stop sign. The diameter of a traffic circle is 160 feet. How far does a car travel in the roundabout if it goes three-fourths of the way around?

Step 1 Find the central angle in radians.

$$\theta = \frac{3}{4} \cdot 2\pi \text{ or } \frac{3\pi}{2} \quad \text{The angle is } \frac{3}{4} \text{ of a rotation.}$$

Step 2 Find the arc length.

$$\begin{aligned} s &= r\theta && \text{Formula for arc length} \\ &= 80 \cdot \frac{3\pi}{2} && r = 0.5d = 0.5(160) \text{ or } 80 \text{ and } \theta = \frac{3\pi}{2} \\ &= 120\pi && \text{Multiply.} \\ &\approx 376.99 && \text{Use a calculator.} \end{aligned}$$

A car that travels three-fourths of the way around the traffic circle will travel about 377 feet.

8	<b>Find values of trigonometric ratios by using reference angles.</b>	Exercises (28-39)	P432
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Sketch each angle. Then find the measure of each reference angle.

28.  $\frac{31\pi}{36}$

29.  $230^\circ$

30.  $205^\circ$

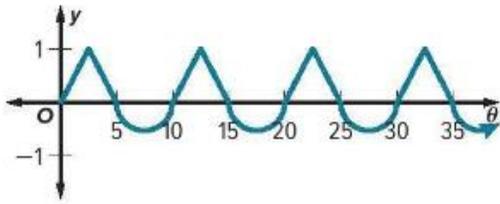
37.  $\frac{13\pi}{8}$

38.  $-210^\circ$

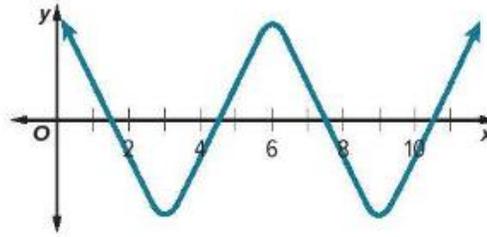
39.  $-\frac{7\pi}{4}$

Determine the period of the function.

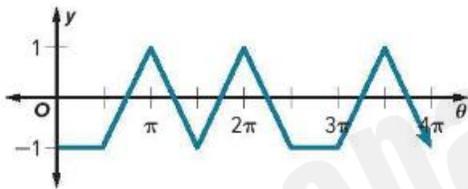
**13.**



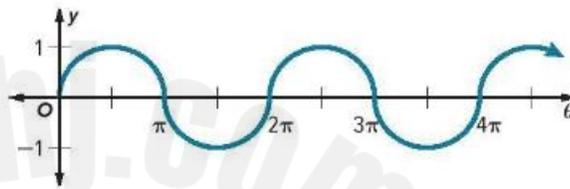
**14.**



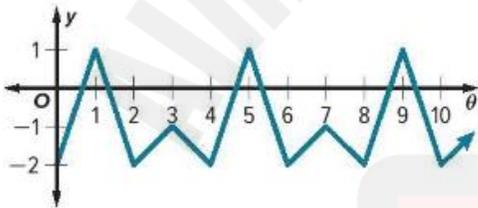
**15.**



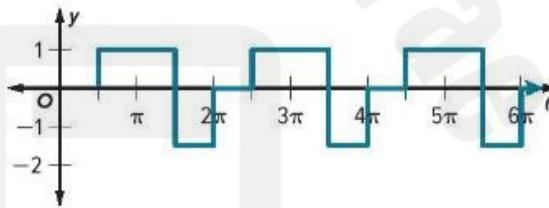
**16.**



**17.**



**18.**



Find the exact value of each expression.

**21.**  $\sin(-510^\circ)$

**22.**  $\sin 495^\circ$

**23.**  $\cos\left(-\frac{5\pi}{2}\right)$

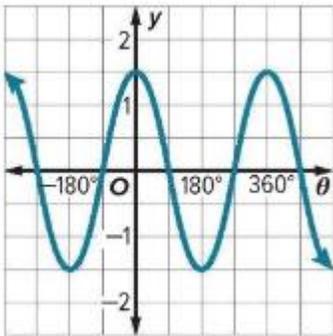
**24.**  $\sin\frac{5\pi}{3}$

**25.**  $\cos\frac{11\pi}{4}$

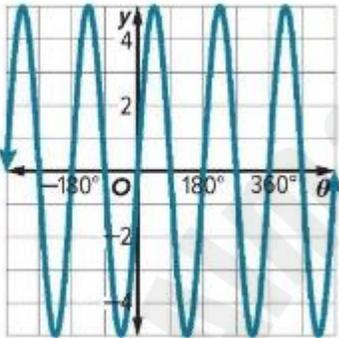
**26.**  $\sin\left(-\frac{3\pi}{4}\right)$

For each graph, identify the period and write an equation.

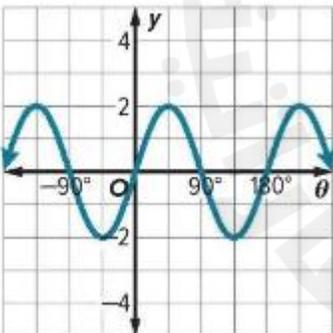
24.



25.



26.



12	<b>Model periodic real-world situations with sine and cosine functions.</b>	Exercises (19-20)	P452
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**19. REASONING** A boat that is tied to a dock moves vertically up and down with the waves. Delray watches the boat for 30 seconds and notes that the boat moves up and down a total of 6 times. The difference between the boat's highest point and lowest point is 3 feet. Write and graph a trigonometric function that models the boat's vertical position  $x$  seconds after she began watching. Assume that when Delray began watching the boat, it was at its highest point and that its average vertical position was 0 feet.

**20. FERRIS WHEELS** A Ferris wheel at a state fair has a diameter of 65 feet and makes 4 complete revolutions each minute. Santiago boards a car of the Ferris wheel at the car's lowest point, and he rides for 2 minutes. Write and graph a trigonometric function that models his height above or below the axle of the Ferris wheel  $\theta$  minutes after the ride starts.



13	<b>Graph and analyze reciprocal trigonometric</b>	Exercises (18-23)	P 462
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Find the period of each function. Then graph the function.

18.  $y = 2 \tan \frac{1}{4}\theta$

19.  $y = 2 \sec \frac{4}{5}\theta$

20.  $y = 5 \csc 3\theta$

21.  $y = 2 \cot 6\theta$

$$22. y = \sec 3\theta$$

$$23. y = 2 \sec \theta$$

14	<b>Find values of inverse trigonometric functions.</b>	Exercises (1-9)	P475
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Find each value. Write angle measures in degrees and radians

$$1. \cos^{-1}\left(\frac{\sqrt{3}}{2}\right)$$

$$2. \sin^{-1}\left(-\frac{\sqrt{3}}{2}\right)$$

$$3. \arccos\left(-\frac{1}{2}\right)$$

$$4. \arctan \sqrt{3}$$

$$5. \arccos\left(-\frac{\sqrt{2}}{2}\right)$$

$$6. \tan^{-1}(-1)$$

$$7. \sin^{-1}\frac{\sqrt{2}}{2}$$

$$8. \cos^{-1}\left(-\frac{\sqrt{3}}{2}\right)$$

$$9. \arcsin 1$$

15	<b>Find values of inverse trigonometric functions.</b>	Exercises (19-30)	P475
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Find  $\theta$  in degrees. Round to the nearest hundredth if necessary.

19.  $\sin \theta = 0.8$

20.  $\tan \theta = 4.5$

21.  $\cos \theta = 0.5$

22.  $\cos \theta = -0.95$

23.  $\sin \theta = -0.126$

24.  $\tan \theta = -1.27$

26.  $\cos \theta = -0.2$

30.  $\sin \theta = -0.57$

الأسئلة المقالية (ورقي)

16	<b>Compare theoretical and experimental probabilities</b>	Example1	P379
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**Example 1 Find Probabilities**

A student tossed a fair eight-sided die 200 times and recorded the results. Find the theoretical and experimental probabilities of rolling an 8.

A) Theoretical Probability

B) Experimental Probability

Number on Die	Frequency
1	28
2	19
3	24
4	22
5	21
6	18
7	26
8	42

17	<b>Describe distributions by finding their mean and standard deviation.</b>	Example1	P388
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**Example 1 Find a Standard Deviation**

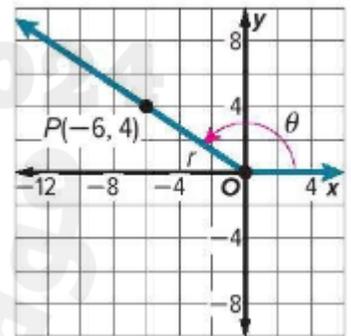
TRACK A coach recorded the times of each track member for a 400-meter race. Find and interpret the standard deviation of the data.

400m Race Times (seconds)	
57.1	55.9
59.3	54.9
54.6	50.3
55.2	53.5

18	<b>Find values of trigonometric functions of general angles.</b>	Example 3	P 427
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**Example 3**

The terminal side of  $\theta$  in standard position contains the point  $(-6, 4)$   
 Find the exact values of the six trigonometric functions of  $\theta$ .



State the amplitude, period, phase shift, and vertical shift for each function. Then graph the function.

**26.**  $y = -3 + 2 \sin 2\left(\theta + \frac{\pi}{4}\right)$

**27.**  $y = 3 \cos 2(\theta + 45^\circ) + 1$

**28.**  $y = -1 + 4 \tan (\theta + \pi)$

20	Find values of angle measures by using inverse trigonometric functions.	Example 4	P474
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PLANES: Suppose a pilot has 30 miles to land a plane at Santa Barbara airport from an elevation of 15,000 feet. Find the angle in degrees at which the airplane should descend.

