

تم تحميل هذا الملف من موقع المناهج الإماراتية



تجميع أسئلة وفق الهيكل الوزاري منهج ريفيل

موقع المناهج ← المناهج الإماراتية ← الصف الحادي عشر المتقدم ← رياضيات ← الفصل الأول ← ملفات متنوعة ← الملف

تاريخ إضافة الملف على موقع المناهج: 2024-11-01 19:57:23

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

المزيد من مادة رياضيات:

إعداد: ALJABALI OBADA

التواصل الاجتماعي بحسب الصف الحادي عشر المتقدم



صفحة المناهج الإماراتية على فيسبوك

الرياضيات

اللغة الانجليزية

اللغة العربية

التربية الاسلامية

المواد على تلغرام

المزيد من الملفات بحسب الصف الحادي عشر المتقدم والمادة رياضيات في الفصل الأول

تجميع أسئلة وفق الهيكل الوزاري منهج بريدج

1

أسئلة الوحدة الثامنة الاحصاء الاستدلالي Statistics Inferential وفق الهيكل الوزاري

2

الهيكل الوزاري الجديد المسار النخبة منهج ريفيل

3

الهيكل الوزاري الجديد المسار المتقدم منهج ريفيل

4

الهيكل الوزاري الجديد المسار المتقدم منهج بريدج

5

MATH

Done By : Mr. OBADA ALJABALI



Exam Coverage 11A Math 2024-2025 Term1



Grade 11 Advanced

GOOD

8045 – Merbh Secondary School for Girls

LUCK

Term 1 – (2024/2025)

End of Term Exam Coverage

20 Objectives

Teacher Obada Aljabali



MR. OBADA
0545872053

GRADE 11 ADVANCE

EOT FIRST TERM



CHAPTER 5

WRITTEN PART

5.3

13. **COMPOUND INTEREST** Ryan invested \$5000 in an account that grows continuously at an annual rate of 2.5%.
- Write the function that represents the situation, where A is the value of Ryan's investment after t years.
 - What will Ryan's investment will be worth after 7 years?



MR. OBADA
0545872053



CHAPTER 5

WRITTEN PART

5.3

14. **SAVINGS** Jariah invested \$6500 in a savings account that grows continuously at an annual rate of 3.25%.
- Write the function that represents the situation, where A is the value of Jariah's investment after t years.
 - What will Jariah's investment will be worth after 18 years?



15. **INVESTMENTS** Marcella invested \$12,750 in a company. Her investment has been growing continuously at an annual rate of 5.5%.
- Write the function that represents the situation, where A is the value of Marcella's investment after t years.
 - What will Marcella's investment will be worth after 9 years?



MR. OBADA
0545872053



CHAPTER 6

WRITTEN PART

6.5

Example 1

- 1. POPULATION** In 2000, the world population was estimated to be 6.124 billion people. In 2005, it was 6.515 billion.
 - a. Write an exponential growth equation to represent the population y in billions t years after 2000.
 - b. Use the equation to predict the year in which the world population reached 7.5 billion people.

- 2. CONSUMER AWARENESS** Jason wants to buy a new HD television but he thinks that if he waits, the quality of HD televisions will improve. The television he wants to buy costs \$2500 now, and based on pricing trends, Jason thinks that the price will increase by 4% each year.
 - a. Write an exponential growth equation to represent the price y of a new HD television t years from now.
 - b. Use the equation to predict when a new HD television will cost \$3000.
 - c. Jason decides to wait to buy a new television and saves his money. He puts \$2200 in a savings account with 4.7% annual interest compounded continuously. Determine when the amount in his savings will exceed the cost of a new television.

MR. OBADA
0545872053



CHAPTER 6

WRITTEN PART

6.5

Example 2

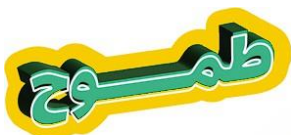
3. **REASONING** A radioactive substance has a half-life of 32 years.
- Determine the value of k and the equation of decay for this radioactive substance.
 - How much of a 5-gram sample of the radioactive substance should be left after 100 years?

Example 3

4. **CARBON DATING** Carbon-14 has a decay constant k of 0.00012. Use this information to determine the age of the objects based on the amount of Carbon-14.
- a fossil that has lost 95% of its Carbon-14
 - an animal skeleton that has 95% of its Carbon-14 remaining
5. **HALF-LIFE** Archeologists uncover an ancient wooden tool. They analyze the tool and find that it has 22% as much Carbon-14 compared to the likely amount that it contained when it was made. Given that the decay constant of Carbon-14 is 0.00012, about how old is the artifact?



MR. OBADA
0545872053



CHAPTER 6

WRITTEN PART

6.5

Example 1

- 1. POPULATION** In 2000, the world population was estimated to be 6.124 billion people. In 2005, it was 6.515 billion.
 - a. Write an exponential growth equation to represent the population y in billions t years after 2000.
 - b. Use the equation to predict the year in which the world population reached 7.5 billion people.

- 2. CONSUMER AWARENESS** Jason wants to buy a new HD television but he thinks that if he waits, the quality of HD televisions will improve. The television he wants to buy costs \$2500 now, and based on pricing trends, Jason thinks that the price will increase by 4% each year.
 - a. Write an exponential growth equation to represent the price y of a new HD television t years from now.
 - b. Use the equation to predict when a new HD television will cost \$3000.
 - c. Jason decides to wait to buy a new television and saves his money. He puts \$2200 in a savings account with 4.7% annual interest compounded continuously. Determine when the amount in his savings will exceed the cost of a new television.

MR. OBADA
0545872053



CHAPTER 6

WRITTEN PART

6.5

Example 2

3. **REASONING** A radioactive substance has a half-life of 32 years.
- Determine the value of k and the equation of decay for this radioactive substance.
 - How much of a 5-gram sample of the radioactive substance should be left after 100 years?

Example 3

4. **CARBON DATING** Carbon-14 has a decay constant k of 0.00012. Use this information to determine the age of the objects based on the amount of Carbon-14.
- a fossil that has lost 95% of its Carbon-14
 - an animal skeleton that has 95% of its Carbon-14 remaining
5. **HALF-LIFE** Archeologists uncover an ancient wooden tool. They analyze the tool and find that it has 22% as much Carbon-14 compared to the likely amount that it contained when it was made. Given that the decay constant of Carbon-14 is 0.00012, about how old is the artifact?



MR. OBADA
0545872053



CHAPTER 7

WRITTEN PART

7.4

Example 4

Find the zeros and asymptotes of each function. Then graph each function.

11. $f(x) = \frac{(x-4)^2}{x+2}$

12. $f(x) = \frac{(x+3)^2}{x-5}$

13. $f(x) = \frac{6x^2 + 4x + 2}{x+2}$

14. $f(x) = \frac{2x^2 + 7x}{x-2}$

15. $f(x) = \frac{3x^2 + 8}{2x-1}$

16. $f(x) = \frac{2x^2 + 5}{3x+4}$



MR. OBADA
0545872053



CHAPTER 8

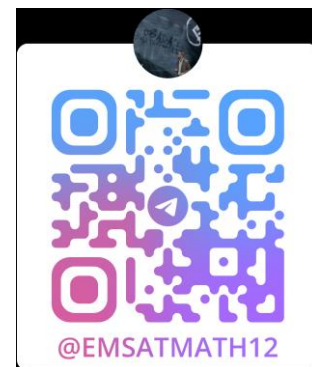
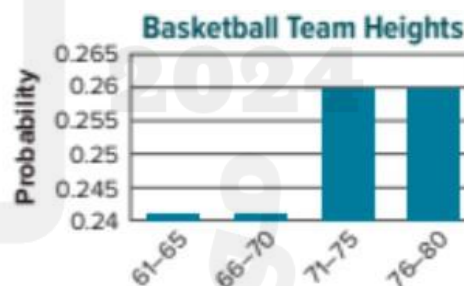
WRITTEN PART

Examples 2-4

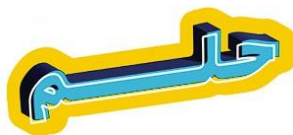
4. **FUNDRAISING** At a fundraising dinner, the underside of 200 plates were randomly tagged with a sticker to indicate winning a cash prize. The frequency table shows the number of winning plates for each prize. Construct a relative frequency table, and graph the probability distribution.

Prize, (X)	Frequency
\$5	150
\$50	40
\$100	9
\$1000	1

5. **BASKETBALL** An athletic director made a probability distribution of the heights of her team's basketball players, and distributed a flyer that claimed that the majority of the players on the basketball team are 71 inches or taller. Identify any flaws in the representation of the probability distribution.



MR. OBADA
0545872053



CHAPTER 8

WRITTEN PART

8.4

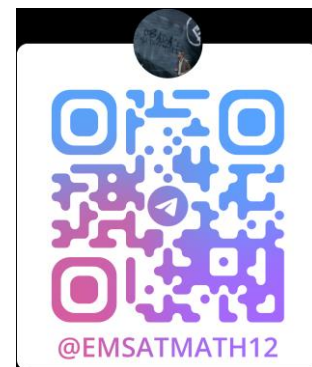
6. **TRACK** The preliminary times for a 110-meter hurdles race are shown. Create a histogram of the set of data. Determine whether the data can be approximated with a normal distribution.

Times (seconds)
14.75, 14.77, 14.31, 14.83, 14.84, 14.35, 14.69, 14.63, 14.74, 14.82, 14.25, 14.93

Example 5

7. A normal distribution has a mean of 186.4 and a standard deviation of 48.9.
- What range of values represents the middle 99.7% of the data?
 - What percent of data will be greater than 235.3?
 - What range of values represents the upper 2.5% of the data?

MR. OBADA
0545872053



CHAPTER 8

WRITTEN PART

8.4

Example 6

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 $\mu = 112.4$

Example 7

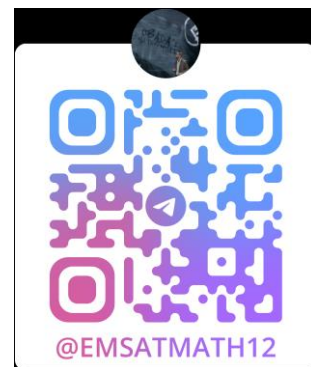
Use a table to find the area under the normal curve for each interval.

11. $z > 0.58$

12. $z < -1.56$

13. $-2.29 < z < 2.76$

MR. OBADA
0545872053



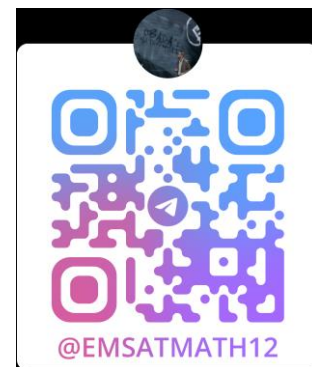
CHAPTER 9

WRITTEN PART

9.3

35. **CONSTRUCT ARGUMENTS** Determine whether each statement is *always*, *sometimes*, or *never* true. Justify your argument.
- If k is a real number, then there is a value of θ such that $\cos \theta = k$.
 - $\sin \theta = \sin (\theta + 2\pi)$
 - If $\theta = n\pi$, where n is a whole number, then $\cos \theta = 1$.
 - If θ is an angle in standard position in which the terminal side lies in Quadrant IV, then $\sin \theta$ is positive.

36. **REASONING** Point P lies on the unit circle and on the line $y = x$. If θ is an angle in standard position in which the terminal side contains P , what can you conclude about $\sin \theta$ and $\cos \theta$? Explain.



MR. OBADA
0545872053

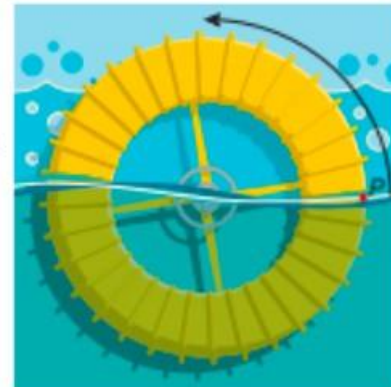


CHAPTER 9

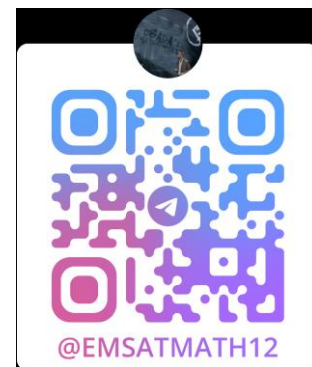
WRITTEN PART

9.3

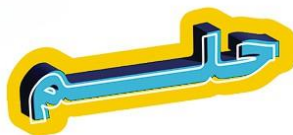
37. **USE A MODEL** The wheel at a water park has a radius of 1 meter. As the water flows, the wheel turns counterclockwise, as shown. A point P on the edge of the wheel begins at the surface of the water. The function $f(x) = \sin x$ represents the height of P above or below the surface of the water as the wheel rotates through an angle of x radians.



- How far does point P travel as the wheel rotates through an angle of $\frac{3\pi}{4}$ radians? Explain.
- Graph $f(x) = \sin x$ on the coordinate plane.
- What is the period of the function? Explain how you know, and explain how the period is shown in the graph. What does the period tell you about point P ?
- What are the x -intercepts? What do these represent?
- Identify an interval where the function is decreasing. What does this represent?



MR. OBADA
0545872053



CHAPTER 9

WRITTEN PART

9.3

38. **TIRES** A point on the edge of a car tire is marked with paint. As the car moves slowly, the marked point on the tire varies in distance from the surface of the road. The height in inches of the point is given by the function $h = -8 \cos t + 8$, where t is the time in seconds.
- What is the maximum height above ground that the point on the tire reaches?
 - What is the minimum height above ground that the point on the tire reaches?
 - How many rotations does the tire make per second?
 - How far does the marked point travel in 30 seconds? How far does the marked point travel in one hour?



MR. OBADA
0545872053



CHAPTER 9

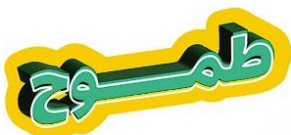
WRITTEN PART

9.3

39. **TEMPERATURES** The temperature T in degrees Fahrenheit of a city t months into the year is approximated by the formula $T = 42 + 30 \sin \frac{\pi}{6}t$.
- What is the highest monthly temperature for the city?
 - In what month does the highest temperature occur?
 - What is the lowest monthly temperature for the city?
 - In what month does the lowest temperature occur?



MR. OBADA
0545872053

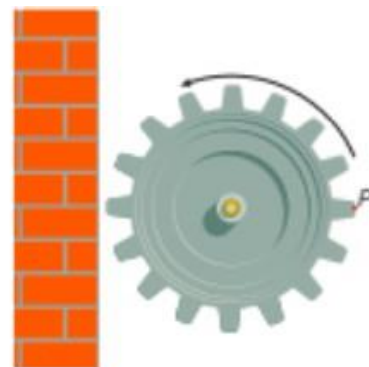


CHAPTER 9

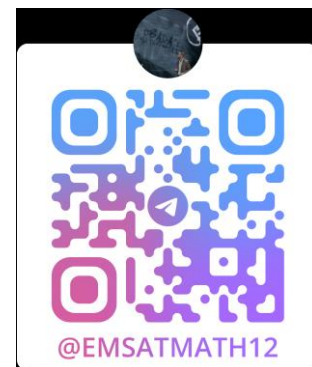
WRITTEN PART

9.3

40. **FACTORIES** A machine in a factory has a gear with a radius of 1 foot. A point P on the edge of the gear begins at the furthest point from a wall, and then the gear begins to rotate counterclockwise. The function $f(x) = \cos x + 2$ represents the distance of P from the wall as the gear rotates through an angle of x radians.



- What is $f\left(\frac{\pi}{2}\right)$? What does it represent?
- Graph $f(x)$ on a coordinate plane.
- What is the period of the function? What does this tell you about P ?
- What are the maximum and minimum values of the function?



MR. OBADA
0545872053





MR. OBADA
0545872053

CHAPTER 5

MULTIPLE CHOICE PART

5.1

Example 5

Determine whether each function represents *exponential growth* or *exponential decay*.

17. $f(x) = 7^x$

18. $g(x) = 0.99^x$

19. $h(x) = \left(\frac{2}{3}\right)^x$

20. $j(x) = \left(\frac{5}{4}\right)^x$

21. $k(x) = 0.75^x$

22. $m(x) = 1.02^x$



MR. OBADA
0545872053



CHAPTER 5

MULTIPLE CHOICE PART

5.1

Example 6

Graph each function. Find the domain, range, y-intercept, asymptote, and end behavior.

23. $f(x) = 0.25^x$

24. $f(x) = 0.8^x$

25. $f(x) = \left(\frac{1}{2}\right)^x$

26. $f(x) = \left(\frac{2}{3}\right)^x$



MR. OBADA
0545872053



CHAPTER 6

MULTIPLE CHOICE PART

6.1

Example 1

Write each equation in exponential form.

1. $\log_{15} 225 = 2$

2. $\log_3 \frac{1}{27} = -3$

3. $\log_5 \frac{1}{25} = -2$

4. $\log_3 243 = 5$

5. $\log_4 64 = 3$

6. $\log_4 32 = \frac{5}{2}$

Example 2

Write each equation in logarithmic form.

7. $2^7 = 128$

8. $3^{-4} = \frac{1}{81}$

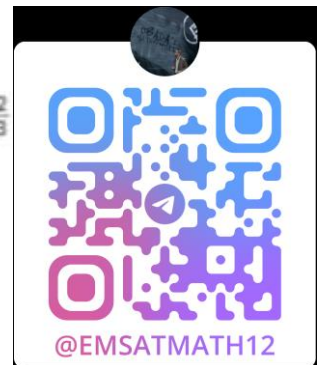
9. $7^{-2} = \frac{1}{49}$

10. $\left(\frac{1}{7}\right)^3 = \frac{1}{343}$

11. $2^9 = 512$

12. $64^{\frac{2}{3}}$

MR. OBADA
0545872053



CHAPTER 6

MULTIPLE CHOICE PART

6.2

Example 2

Solve each equation.

7. $\log_4 (2x^2 - 4) = \log_4 2x$

8. $\log_5 (x^2 - 6) = \log_5 x$

9. $\log_3 (x^2 - 8) = \log_3 2x$

10. $\log_4 (2x^2 - 20) = \log_4 6x$

11. $\log_2 (6x^2 + 1) = \log_2 5x$

12. $\log_6 (6x^2 - 3) = \log_6 7x$

Examples 3 and 4

Use $\log_4 2 = 0.5$, $\log_4 3 \approx 0.7925$, and $\log_4 5 \approx 1.1610$ to approximate the value of each expression.

13. $\log_4 30$

14. $\log_4 20$

15. $\log_4 \frac{2}{3}$



MR. OBADA
0545872053



CHAPTER 6

MULTIPLE CHOICE PART

6.2

16. $\log_4 \frac{4}{3}$

17. $\log_4 9$

18. $\log_4 8$

Example 5

Use $\log_2 3 \approx 1.5850$ and $\log_2 5 \approx 2.3219$ to approximate the value of each expression.

19. $\log_2 25$

20. $\log_2 27$

21. $\log_2 125$

22. $\log_2 625$

23. $\log_2 81$

24. $\log_2 243$



MR. OBADA
0545872053



CHAPTER 6

MULTIPLE CHOICE PART

6.2

Solve each equation. Check your solution.

27. $\log_3 56 - \log_3 n = \log_3 7$

28. $\log_2 (4x) + \log_2 5 = \log_2 40$

29. $5 \log_2 x = \log_2 32$

30. $\log_{10} a + \log_{10} (a + 21) = \log_{10} 100$

31. $\log_2 x + \log_2 (x + 2) = \log_2 8$

32. $\log_4 (x^2 + 2x + 1) = \log_4 (11 - x)$

33. $\log_3 \frac{x^2}{4} = \log_3 25$

34. $\log_3 3d = \log_3 9$

35. $\log_{10} (3x^2 - 5x) = \log_{10} 2$

36. $\log_4 (2x^2 - 3x) = \log_4 2$

MR. OBADA
0545872053



CHAPTER 6

MULTIPLE CHOICE PART

6.2

Use $\log_5 3 \approx 0.6826$ and $\log_5 4 \approx 0.8614$ to approximate the value of each expression.

37. $\log_5 40$

38. $\log_5 30$

39. $\log_5 \frac{3}{4}$

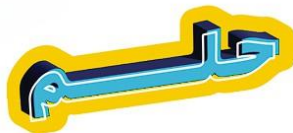
40. $\log_5 \frac{4}{3}$

41. $\log_5 9$

42. $\log_5 16$



MR. OBADA
0545872053



CHAPTER 6

MULTIPLE CHOICE PART

6.3

Example 3

Solve each equation. Round to the nearest ten-thousandth.

9. $4^{5k} = 37$

10. $8^p = 50$

11. $7^y = 15$

12. $5^{4x-2} = 120$

13. $6^{x+2} = 18$

14. $2.4^{x+4} = 30$

Example 4

Solve each inequality. Round to the nearest ten-thousandth.

15. $7^{3x-1} \geq 21$

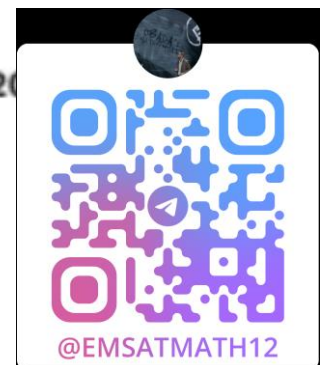
16. $6.5^{2x} \geq 200$

17. $3^x > 243$

18. $16^v \leq \frac{1}{4}$

19. $8^{y+4} > 15$

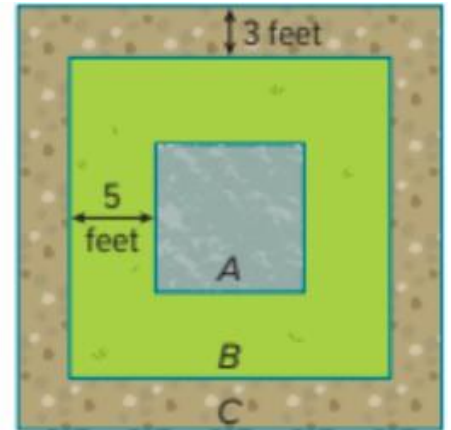
20.



MR. OBADA
0545872053



45. USE A MODEL Anita's yard is being professionally landscaped. The final design will consist of a circular fountain x feet in diameter in square A surrounded by a grassy area in square B and a gravel pathway in square C that borders the grassy area. The square areas will be centered on each other as shown in the diagram. Square A will have a side length of $2x$ feet.



- Anita would like the lengths of the sides to be proportional. For what values of x will the ratio of the lengths of a side of square C to a side of square B equal the ratio of the lengths of a side of square B to a side of square A ? Explain your reasoning. What diameter could the fountain have?
- If the landscape architect changed the width of the gravel pathway to 4 feet and the width of the grassy area to 2 feet, is there a value for x that would make the ratios equal? Explain your reasoning. What diameter could the fountain have?



 Higher-Order Thinking Skills

46. **ANALYZE** Compare and contrast $\frac{(x-6)(x+2)(x+3)}{x+3}$ and $(x-6)(x+2)$.

47. **FIND THE ERROR** Troy and Beverly are simplifying $\frac{x+y}{x-y} \div \frac{4}{y-x}$. Is either of them correct? Explain your reasoning.

Troy

$$\frac{x+y}{x-y} \div \frac{4}{y-x} = \frac{x-y}{x+y} \cdot \frac{4}{y-x}$$

$$= \frac{-4}{x+y}$$

Beverly

$$\frac{x+y}{x-y} \div \frac{4}{y-x} = \frac{x+y}{x-y} \cdot \frac{y-x}{4}$$

$$= -\frac{x+y}{4}$$



CHAPTER 7

MULTIPLE CHOICE PART

7.1

48. **PERSEVERE** Find the expression that makes the following statement true for all values of x within the domain.

$$\frac{x-6}{x+3} \cdot \frac{?}{x-6} = x-2$$

49. **WHICH ONE DOESN'T BELONG?** Identify the expression that does not belong with the other three. Justify your conclusion.

$$\frac{1}{x-1}$$

$$\frac{x^2 + 3x + 2}{x-5}$$

$$\frac{x+1}{\sqrt{x+3}}$$

$$\frac{x^2 + 1}{3}$$

50. **ANALYZE** Determine whether the following statement is *sometimes*, *always*, or *never* true. Justify your argument.

A rational function that has a variable in the denominator is defined for all real values of x .



MR. OBADA
0545872053



CHAPTER 7

MULTIPLE CHOICE PART

7.1

51. **CREATE** Write a rational expression that simplifies to $\frac{x-1}{x+4}$.

52. **WRITE** The rational expression $\frac{x^2+3x}{4x}$ is simplified to $\frac{x+3}{4}$. Explain why this new expression is not defined for all values of x .

53. **CREATE** Write three different rational expressions that are equivalent to the expression $\frac{a}{a-5}$, $a \neq 5$.



MR. OBADA
0545872053



CHAPTER 7

MULTIPLE CHOICE PART

7.3

Example 1

Determine the excluded value of x for each function.

1. $f(x) = \frac{5}{x}$

2. $g(x) = \frac{-2}{x+2}$

3. $f(x) = \frac{10}{x-3}$

4. $g(x) = \frac{5}{-6x}$

5. $f(x) = \frac{5}{2x+3}$

6. $g(x) = \frac{5}{7x-9}$

Example 2

Identify the asymptotes, domain, and range of each function. Then graph the function and identify its intercepts.

7. $f(x) = \frac{1}{x-1}$

8. $f(x) = -\frac{1}{x} + 4$

9. $f(x) = \frac{5}{x+4}$

10. $f(x) = \frac{6}{x} - 3$



MR. OBADA
0545872053



Example 3

- 11. PLANES** A plane is scheduled to leave Dallas for an 800-mile flight to Chicago O'Hare airport. However, the departure is delayed for two hours.
- If $t = 0$ represents the scheduled departure time, write a function that represents the plane's average speed r on the vertical axis as a function of travel time, t , which is based on the travel from the scheduled departure time to the destination. Graph the function.
 - Analyze the key features of the graph in the context of the situation.



CHAPTER 7

MULTIPLE CHOICE PART

7.3

12. **COMPUTERS** To manufacture a specific model of computer, a company pays \$5000 for rent and overhead and \$435 per computer for parts.
- Write the function relating the average cost to make a computer C to how many computers n are being made. Graph the function.
 - Analyze the key features of the graph.

Example 4

Graph each function. State the domain and range.

13. $f(x) = \frac{1}{x+3} - 3$

14. $f(x) = \frac{-1}{x+5} - 6$

15. $f(x) = \frac{-1}{x+1} + 3$

16. $f(x) = \frac{1}{x+4} - 2$



MR. OBADA
0545872053



CHAPTER 7

MULTIPLE CHOICE PART

7.6

Example 6

Solve each inequality. Check your solutions.

19. $3 - \frac{4}{x} > \frac{5}{4x}$

20. $\frac{5}{3a} - \frac{3}{4a} > \frac{5}{6}$

21. $\frac{x-2}{x+2} + \frac{1}{x-2} > \frac{x-4}{x-2}$

22. $\frac{3}{4} - \frac{1}{x-3} > \frac{x}{x+4}$

23. $\frac{x}{5} + \frac{2}{3} < \frac{3}{x-4}$

24. $\frac{x}{x+2} + \frac{1}{x-1} < \frac{3}{2}$



MR. OBADA
0545872053



CHAPTER 7

MULTIPLE CHOICE PART

7.6

Example 7

25. **ORIGAMI** For prom, Muna wants to fold 1000 origami cranes. She is asking volunteers to help and does not want to make anyone fold more than 15 cranes.

- Write an inequality to represent this situation, if N is the number of people enlisted to fold cranes.
- What is the minimum number of people that will satisfy the inequality in **part a**?



26. **PROM** Caleb manages the budget for his school's junior prom. His class has spent \$1250 for the prom venue, \$625 for a DJ, and \$1470 for decorations. They will also serve dinner before the dance, which costs \$12 per student. If he wants to keep the cost of prom tickets less than \$20, how many students will need to buy tickets?



MR. OBADA
0545872053



Mixed Exercises

27. **HEIGHT** Fabiana is 8 inches shorter than her sister Pilar, or 12.5% shorter than Pilar. How tall is Fabiana?

Solve each equation or inequality. Check your solutions.

28. $\frac{x-2}{x+4} > \frac{x+1}{x+10}$

29. $\frac{3}{k} - \frac{4}{3k} = 0$

30. $2 - \frac{3}{v} = \frac{5}{v}$

31. $n + \frac{3}{n} < \frac{12}{n}$



CHAPTER 7

MULTIPLE CHOICE PART

7.6

32. $\frac{1}{2m} - \frac{3}{m} < -\frac{5}{2}$

33. $\frac{1}{2x} < \frac{2}{x} - 1$

34. $\frac{6}{x+2} = \frac{x-7}{x+2} + \frac{1}{4}$

35. $\frac{t-5}{t-3} = \frac{t-3}{t+3} + \frac{1}{t-3}$

36. $3 + \frac{2}{t} > \frac{8}{t}$

37. $\frac{6}{m+5} > 2$



MR. OBADA
0545872053



CHAPTER 8

MULTIPLE CHOICE PART

8.1

Example 1

Identify each sample, and suggest a population from which it was selected. Then classify the sample as *simple random*, *systematic*, *self-selected*, *convenience*, or *stratified*. Explain your reasoning.

1. Berton divides his sports T-shirts by team. Then he randomly selects four T-shirts from each team and records the size.

2. The project manager at a new business inspects every tenth smart phone produced to check that it is operating correctly.

3. A grocery store manager asks its customers to submit suggestions for items on the salad bar during the week.

2025

2024



@EMSATMATH12

MR. OBADA
0545872053



CHAPTER 8

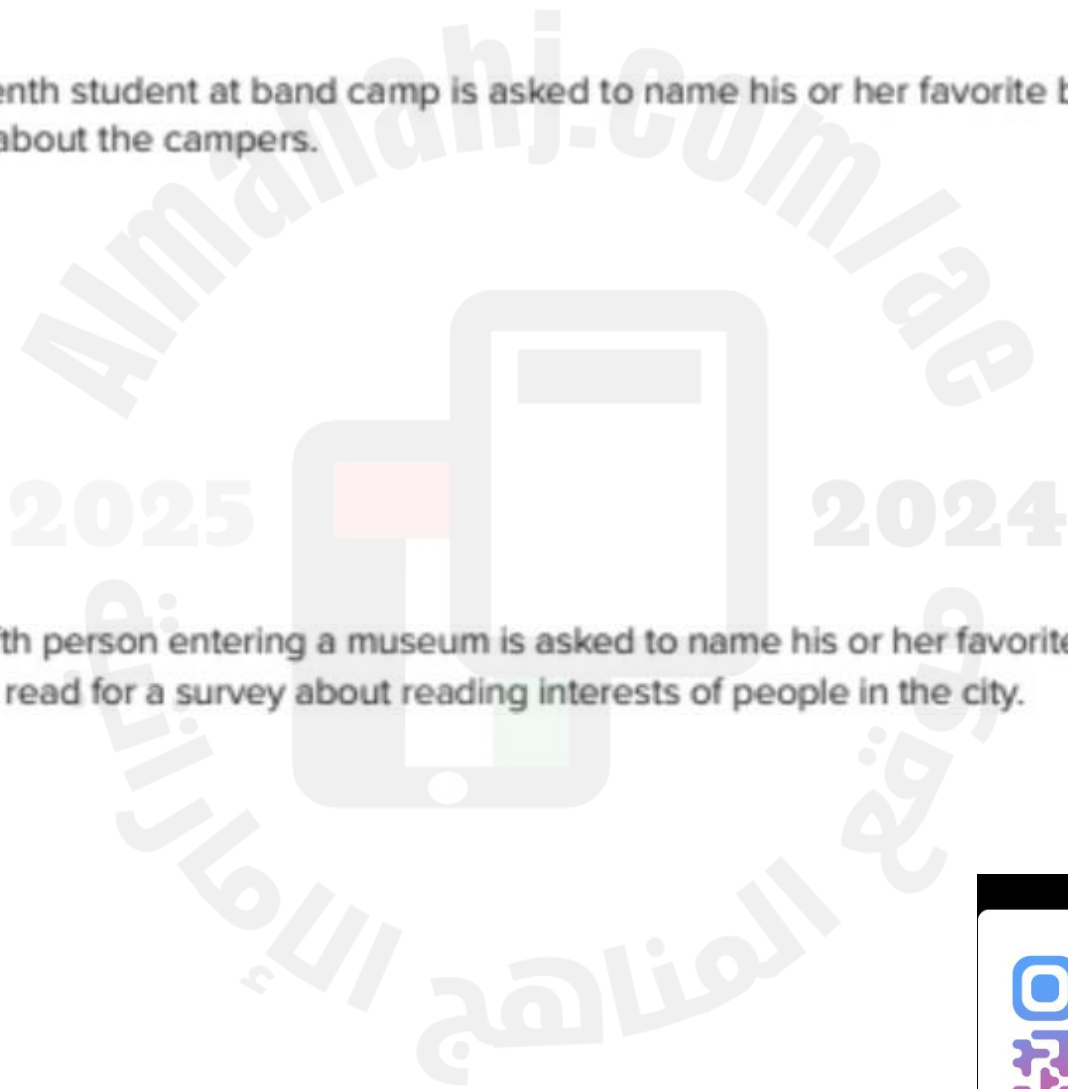
MULTIPLE CHOICE PART

8.1

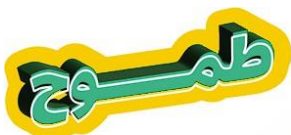
Examples 2 and 3

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.



MR. OBADA
0545872053



CHAPTER 8

MULTIPLE CHOICE PART

8.1

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

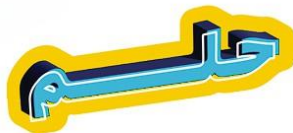
8. Which is your favorite type of music, pop, or country?

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

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



MR. OBADA
0545872053



CHAPTER 8

MULTIPLE CHOICE PART

8.1

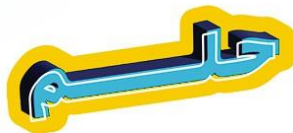
Mixed Exercises

Classify each sample as *simple random*, *systematic*, *self-selected*, *convenience*, or *stratified*. Then determine whether each situation describes a *survey*, an *observational study*, or an *experiment*.

21. To determine the music preferences of their customers, the manager of a music store selected 10 customers in the store to participate in an interview.

22. Administrators at a community library want to know the type of materials patrons are most likely to use. Every Friday, they record the type of media each patron uses.

MR. OBADA
0545872053



23. To determine whether the school should purchase new computer software, the technology team divides a group of 50 students into two groups by age. Half of the students from each age group are randomly selected to complete an activity using the current computer software, and the other half of the students from each group complete the same activity using the new computer software. The students' actions are recorded and analyzed.



MR. OBADA
0545872053



CHAPTER 8

MULTIPLE CHOICE PART

8.2

Example 1

1. A student spun a spinner with 4 equal sections 100 times and recorded the results.

a. Find the theoretical probability of spinning blue. Write your answer as a percentage rounded to the nearest tenth, if necessary.

b. Find the experimental probability of spinning blue. Write your answer as a percentage rounded to the nearest tenth, if necessary.

Spinner Section	Frequency
Red	35
Blue	38
Green	13
Yellow	14

2. A student flipped a coin 125 times and recorded the results.

a. Find the theoretical probability of the coin landing on heads. Write your answer as a percentage rounded to the nearest tenth, if necessary.

b. Find the experimental probability of the coin landing on heads. Write your answer as a percentage rounded to the nearest tenth, if necessary.

Coin Result	Frequency
Heads	73
Tails	52

MR. OBADA
0545872053



CHAPTER 8

MULTIPLE CHOICE PART

8.2

3. A fair 6-sided die is rolled 150 times.
- Find the theoretical probability of rolling a 3. Write your answer as a percentage rounded to the nearest tenth, if necessary.
 - Find the experimental probability of rolling a 3. Write your answer as a percentage rounded to the nearest tenth, if necessary.

Number on Die	Frequency
1	32
2	18
3	27
4	16
5	33
6	24

Examples 2 and 3

4. **INTERNET** Tiana sells handmade earrings online. Last month she sold 60% of her inventory. Design and run a simulation that can be used to estimate the probability of selling inventory.
5. **PROGRAMMING** Lamar designed a soccer computer game. He coded the program such that a player will make a goal on 35% of the attempts. Paola is testing the game and thinks there may be an error in the game's programming. She attempted to make 30 goals and only 4 were successful. Run and evaluate a simulation, and decide whether Paola is correct.



MR. OBADA
0545872053



CHAPTER 8

MULTIPLE CHOICE PART

8.3

Example 1

1. **BARBER** A barber wants to purchase new professional shears from a Web site. The prices of all of the shears are shown in the table. Use the standard deviation formula to find and interpret the standard deviation of the data. Round your answers to the nearest cent.

Cost of Shears (\$)			
50	165	55	79
84	68	38	42

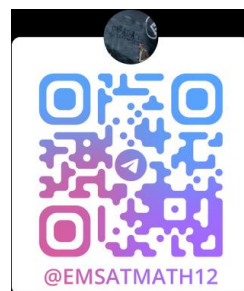
2. **READING** Ms. Sanchez keeps track of the total number of books each student in the book club reads during the school year. Use the standard deviation formula to find and interpret the standard deviation of the data. Round your answers to the nearest tenth.

Books Read		
9	6	12
8	9	14
10	13	8

Example 2

Use a graphing calculator to find the mean and standard deviation of each set of data. Round to the nearest tenth.

3. 20, 23, 24, 23, 22, 25, 21,
23, 24, 22, 21, 23, 22, 24
4. 150, 153, 125, 136, 143, 150, 166, 148,
150, 173, 150, 153, 143, 142, 153
5. 9.0, 3.8, 6.2, 7.1, 5.3, 6.2,
7.1, 8.2, 7.1, 4.5, 9.9, 8.2
6. 3350, 2800, 4525, 2150, 2800, 2150,
3350, 1800, 5250, 3975, 580, 2800



@EMSATMATH12

MR. OBADA

0545872053



CHAPTER 8

MULTIPLE CHOICE PART

Example 1

Identify the random variable in each distribution, and classify it as *discrete* or *continuous*. Explain your reasoning.

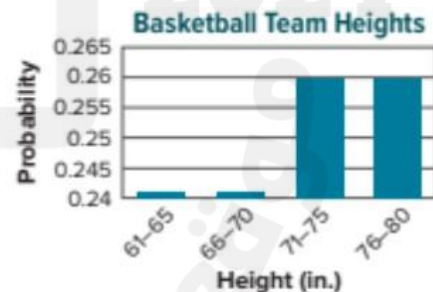
1. the number of texts received per week
2. the number of "likes" for a Web page
3. the height of a plant after a specific amount of time

Examples 2-4

4. **FUNDRAISING** At a fundraising dinner, the underside of 200 plates were randomly tagged with a sticker to indicate winning a cash prize. The frequency table shows the number of winning plates for each prize. Construct a relative frequency table, and graph the probability distribution.

Prize, (X)	Frequency
\$5	150
\$50	40
\$100	9
\$1000	1

5. **BASKETBALL** An athletic director made a probability distribution of the heights of her team's basketball players, and distributed a flyer that claimed that the majority of the players on the basketball team are 71 inches or taller. Identify any flaws in the representation of the probability distribution.



MR. OBADA
0545872053



CHAPTER 8

MULTIPLE CHOICE PART

8.4

Example 5

7. A normal distribution has a mean of 186.4 and a standard deviation of 48.9.
- What range of values represents the middle 99.7% of the data?
 - What percent of data will be greater than 235.3?
 - What range of values represents the upper 2.5% of the data?

Example 6

Find the z-value for each standard normal distribution.

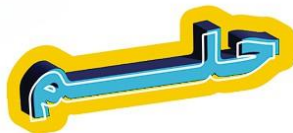
8. $\sigma = 9.8$, $X = 55.4$, and $\mu = 68.34$

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

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



MR. OBADA
0545872053



CHAPTER 8

MULTIPLE CHOICE PART

8.4

Example 7

Use a table to find the area under the normal curve for each interval.

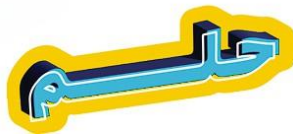
11. $z > 0.58$

12. $z < -1.56$

13. $-2.29 < z < 2.76$



MR. OBADA
0545872053



CHAPTER 9

MULTIPLE CHOICE PART

9.1

Example 6

52. **TRANSPORTATION** A traffic roundabout has a diameter of 200 meters. How far does an automobile travel in the roundabout if it goes one-fourth of the way around?

53. **ANALOG CLOCKS** The length of the minute hand of an analog clock is 5 inches. If the minute hand rotates from 12 noon to 12:40 P.M., then how far does its point move?

Mixed Exercises

REGULARITY Rewrite each degree measure in radians and each radian measure in degrees.

54. 18°

55. 6°

56. -72°

57. -820°

58. 4π

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



MR. OBADA
0545872053

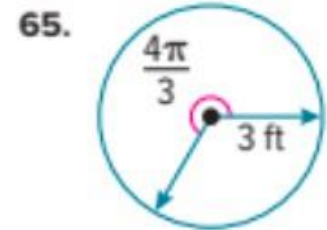
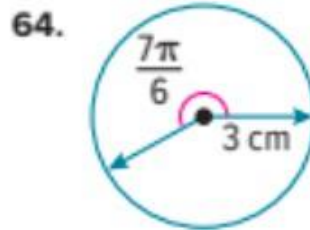
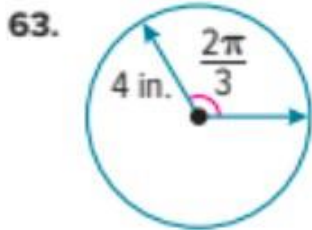


CHAPTER 9

MULTIPLE CHOICE PART

9.1

Find the length of each arc. Round to the nearest tenth.



66. **TIME** Find both the degree and radian measures of the angle through which the hour hand on a clock rotates from 5 A.M. to 10 P.M.

67. **ROTATION** A truck with 16-inch radius wheels is driven at 77 feet per second (52.5 miles per hour). Find the measure of the angle through which a point on the outside of the wheel travels each second. Round to the nearest degree and



MR. OBADA
0545872053



CHAPTER 9

MULTIPLE CHOICE PART

9.1

68. **PLANETS** Earth makes one full rotation on its axis every 24 hours. How long does it take Earth to rotate through 150° ? Neptune makes one full rotation on its axis every 16 hours. How long does it take Neptune to rotate through 150° ?

69. **SURVEYING** If a surveyor's wheel with a diameter of 19 inches completes $\frac{5}{6}$ of a rotation, what is the total distance traveled in inches? Round to the nearest hundredth if necessary.

2025

2024



MR. OBADA
0545872053



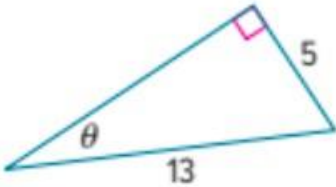
CHAPTER 8

MULTIPLE CHOICE PART

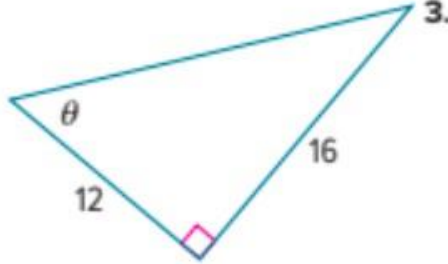
Example 1

Find the exact values of the six trigonometric functions for angle θ .

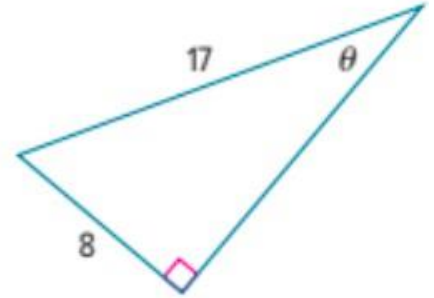
1.



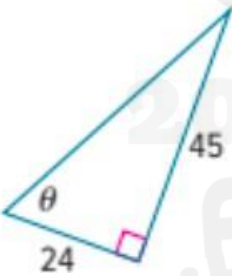
2.



3.



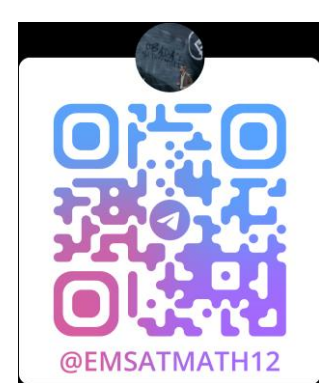
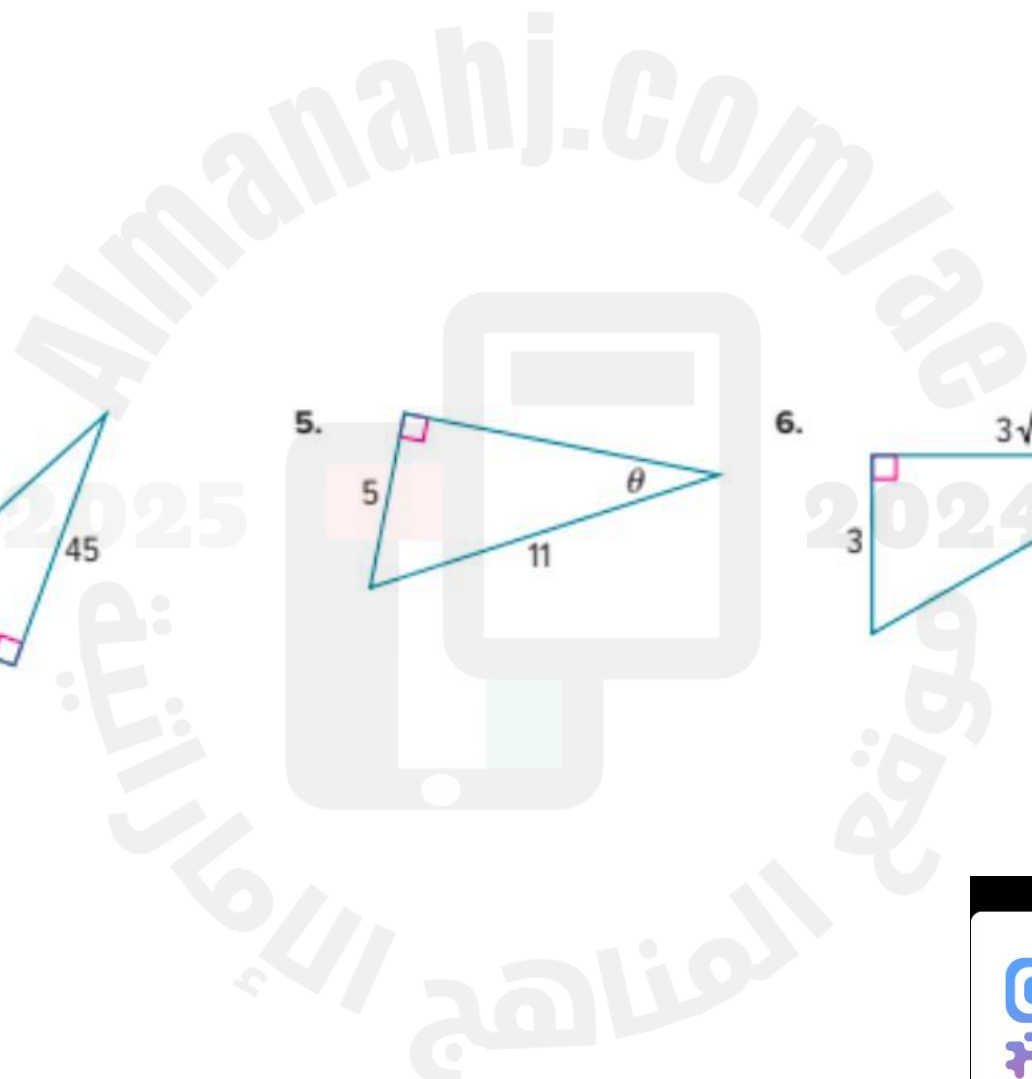
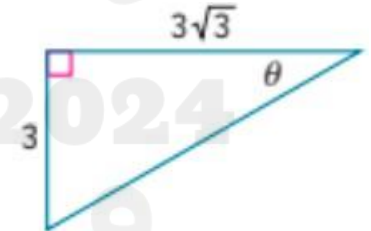
4.



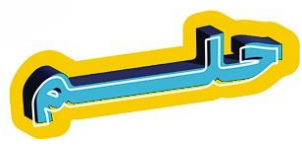
5.



6.



MR. OBADA
0545872053



CHAPTER 8

MULTIPLE CHOICE PART

9.2

Example 2

In a right triangle, $\angle A$ and $\angle B$ are acute. Find the values of the five remaining trigonometric functions.

7. $\tan A = \frac{8}{15}$

8. $\cos A = \frac{3}{10}$

9. $\tan B = 3$

10. $\sin B = \frac{4}{9}$

11. $\cos A = \frac{1}{2}$

12. $\sin A = \frac{15}{17}$



MR. OBADA
0545872053



CHAPTER 8

MULTIPLE CHOICE PART

9.4

Example 2

Find the amplitude and period of each function.

5. $y = 2 \cos \theta$

6. $y = 2 \sin \theta$

7. $y = \cos \frac{1}{2}\theta$

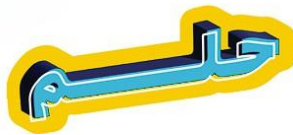
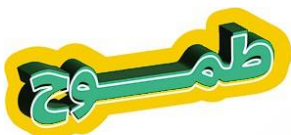
8. $y = \frac{3}{4} \cos \theta$

9. $y = \frac{1}{2} \sin 2\theta$

10. $y = 3 \cos 2\theta$



MR. OBADA
0545872053



CHAPTER 8

MULTIPLE CHOICE PART

9.4

Examples 3 and 4

Find the amplitude and period of each function. Then graph the function.

11. $y = 3 \sin \theta$

12. $y = \cos 3\theta$

13. $y = \sin 4\theta$

14. $y = \frac{3}{2} \sin \theta$

15. $y = 4 \cos 2\theta$

16. $y = 5 \sin \frac{2}{3}\theta$



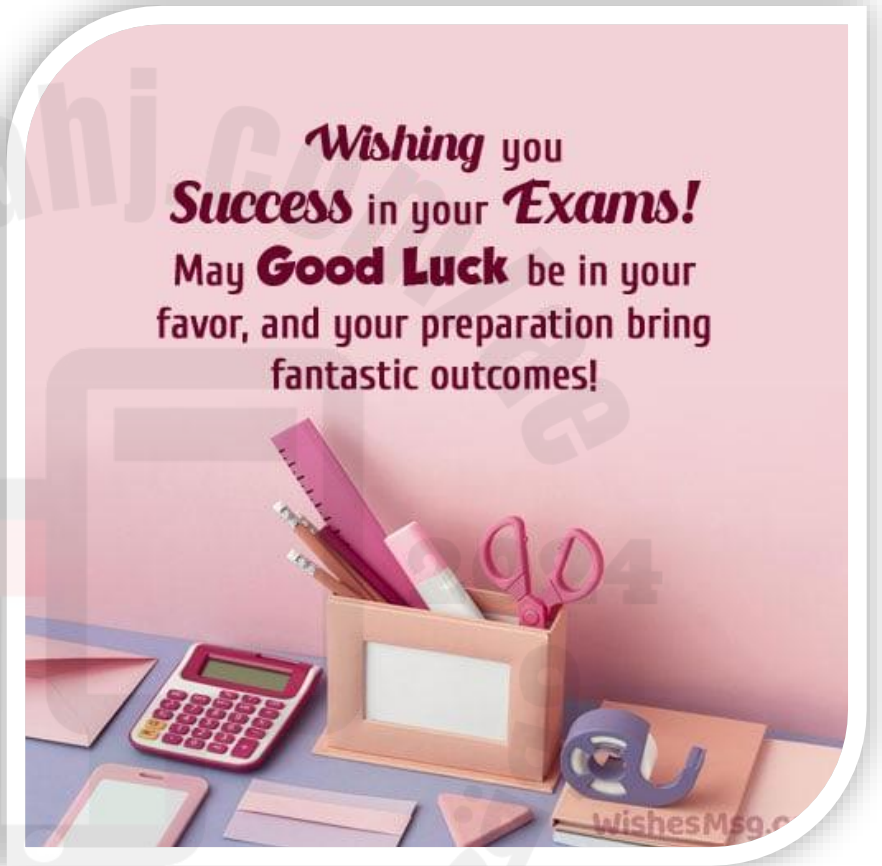
MR. OBADA
0545872053



Dear Students ,

*Please make sure to study all
the required lessons in the Final
Exam !*

MR. OBADA
0545872053



Manahj
2025
المناهج
المناهج