MODULE 2

LESSON 4

QUIZ

1. Question. Which of the following expresses the polynomial $P(x) = x^3 + 8$ in factored form?

   A. $(x + 2)(x + 2)(x + 2)$

   B. $(x + 2)(x2 + 2x + 4)$

   C. $(x + 2)(x2 - 2x + 4)$

   D. Not factorable over the integers.

   Go to answer 1

2. Question. Which of the following are the solutions of the equation $x^2 - 2x + 4 = 0$?

   A. $x = 2$ and $x = -2$

   B. The equation has no solutions because $x^2 - 2x + 4$ is not factorable over the integers.

   C. $x = 1 + i\sqrt{3}$ and $x = 1 - i\sqrt{3}$

   D. $x = -1 + i\sqrt{3}$ and $x = -1 - i\sqrt{3}$

   Go to answer 2

3. Question. Which of the following is the completely factored form of the polynomial $P(x) = x^3 + 8$?

   A. $P(x) = (x + 2)^3$

   B. $P(x) = (x + 2)(x + 1 + i\sqrt{3})(x + 1 - i\sqrt{3})$

   C. $P(x) = (x + 2)^2(x - 4)$

   D. $P(x) = (x + 2)(x - 1 + i\sqrt{3})(x - 1 - i\sqrt{3})$

   Go to answer 3

4. Question. Which of the following correctly describes the solutions $x = 1 + i\sqrt{3}$, $x = 1 - i\sqrt{3}$ and $x = -2$?

   A. 3 solutions of which 1 is real and 2 are non-real.

   B. 3 solutions of which all 3 are real.

   C. 3 solutions of which 2 are real and 1 is non-real.

   D. 3 solutions of which all 3 are non-real.

   Go to answer 4

5. Question. How many x-intercepts does the graph of the polynomial $P(x) = x^3 + 8$ have?

   A. none

   B. 3

   C. 2

   D. 1

   Go to answer 5

1. Answer to Question 1 is "C".

   Note: The polynomial $P(x) = x3+8$ in factored form is $P(x) = (x+2)(x^2-2x+4)$, where $(x+2)$ is a *linear factor* and (x^2-2x+4) is a *quadratic factor*.

   Go back 1

2. Answer to Question 2 is "C".

   Go back 2

3. Answer to Question 3 is "D".

   Go back 3

4. Answer to Question 4 is "A".

   Go back 4

5. Answer to Question 5 is "D".

   Go back 5