

PRINTABLE VERSION

Quiz 6

Question 1

Find all solutions to the following equation: $x^5 = 64x^3$

- a) $x = 64$
- b) $x = -8, x = 8$
- c) $x = 0, x = -8, x = 8$
- d) $x = 0, x = 8$
- e) $x = 0, x = 64$
- f) None of the above.

Question 2

Find all solutions to the following equation: $x^3 - 5x^2 - 9x + 45 = 0$

- a) $x = 5, x = -3, x = 3$
- b) $x = 5, x = 9$
- c) $x = 0, x = 5, x = 3$
- d) $x = -45, x = 3, x = 5$
- e) $x = -5, x = 5$
- f) None of the above.

Question 3

Find all solutions to the following equation: $\frac{6}{x} - \frac{2}{x+5} = 1$

- a) $x = -5$

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- c) $x = 0, x = 6, x = 5$
- d) $x = -6, x = 6$
- e) $x = 6, x = 6$
- f) None of the above.

Question 4

Use substitution to find all solutions to the following equation: $(x + 5)^2 + (x + 5) - 12 = 0$

- a) $x = -5$
- b) $x = 0, x = 2, x = -9$
- c) $x = -2, x = -9$
- d) $x = 2, x = 3$
- e) $x = 8, x = -5$
- f) None of the above.

Question 5

Use substitution to find all solutions to the following equation: $\left(1 - \frac{3}{x}\right)^2 - 6\left(1 - \frac{3}{x}\right) + 8 = 0$

- a) $x = \frac{3}{4}, x = \frac{3}{2}$
- b) $x = -1, x = -3$
- c) $x = 1, x = -3$
- d) $x = -3$
- e) $x = 4, x = 3$
- f) None of the above.

Question 6

Use substitution to find all solutions to the following equation: $x^4 - 16x^2 - 225 = 0$

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- a) $x = -5, x = 5$
- b) $x = -5, x = 5, x = -3i, x = 3i$
- c) $x = -3, x = 3$
- d) $x = -25, x = 9$
- e) $x = -3, x = 3, x = -5, x = 5$
- f) $x = -3, x = 3, x = -5i, x = 5i$
- g) None of the above.

Question 7

Find all solutions to the following equation:

$$\sqrt{2x+1} = 7$$

- a) $x = 25$
- b) $x = 3$
- c) $x = -25$
- d) $x = 24$
- e) $x = -24$
- f) None of the above

Question 8

Find all solutions to the following equation: $\sqrt{x+9} + 3 = x$

- a) $x = 7, x = 5$
- b) $x = 0, x = -3$
- c) $x = 7$
- d) $x = 9, x = 3$
- e) $x = 0, x = 3, x = 18$
- f) $x = 5$

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g) None of the above.

Question 9

Find all solutions to the following equation: $x - 10\sqrt{x} + 21 = 0$

a) $x = 3, x = 7$

b) $x = 0, x = 21$

c) $x = -3, x = -7$

d) $x = 49, x = 9$

e) $x = 0, x = 7, x = 6$

f) $x = \sqrt{7}, x = \sqrt{3}$

g) None of the above.

Question 10

Find all solutions to the following equation: $x^{2/3} - 3x^{1/3} - 10 = 0$

a) $x = -2, x = -5$

b) $x = -2, x = 5$

c) $x = 0, x = 5, x = 2$

d) $x = -8, x = 125$

e) $x = 8, x = 125$

f) $x = 2^{1/3}, x = 5^{1/3}$

g) None of the above.