

Online Exam 4_04

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Part 1 of 1 -

Question 1 of 20

5.0 Points

Multiply. Write the result in standard form.

$$(5 - i)(4 + 3i)$$

- ☐ A. $11 + 23i$
- ☐ B. $23 + 11i$
- ☐ C. $20 - 3i$
- ☐ D. $9i$

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Question 2 of 20

5.0 Points

Subtract. Write the results in standard form.

$$(-8 - 4i) - (-5 - 3i)$$

- ☐ A. $-3 - i$
- ☐ B. $-3 - 7i$
- ☐ C. $-10i$
- ☐ D. $-4i$

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Question 3 of 20

5.0 Points

Multiply. Write the result in standard form.

$$4i(-10 + 5i)$$

- ☐ A. $-35i$
- ☐ B. $-60i$
- ☐ C. $-20 - 40i$
- ☐ D. $20 - 40i$

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Question 4 of 20

5.0 Points

Convert imaginary numbers to standard form, perform the indicated operation, and express the answer in standard form.

$$\frac{7 - \sqrt{-49}}{7}$$

- ☐ A. $1 + i$
- ☐ B. $1 - i$
- ☐ C. $1 + 49i$
- ☐ D. $1 - 49i$

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Question 5 of 20

5.0 Points

Convert imaginary numbers to standard form, perform the indicated operation, and express the answer in standard form.

$$\frac{6 - \sqrt{-16}}{2}$$

- ☐ A. $3 - 2i$
- ☐ B. $3 + 2i$
- ☐ C. $-3 - 2i$
- ☐ D. $-3 + 2i$

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Question 6 of 20

5.0 Points

Divide and write your answer in standard form.

$$\frac{-2 - 3i}{i}$$

- ☐ A. $-3 - 2i$
- ☐ B. $3 - 2i$
- ☐ C. $-3 + 2i$
- ☐ D. $3 + 2i$

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Question 7 of 20

5.0 Points

Solve for x and y.

$$(3x + 4) + (5y - 1) = 10 - 16i$$

- ☐ A. $x = 2, y = -3$
- ☐ B. $x = 1, y = -2$

☐ C. $x = 3, y = 2$

☐ D. $x = -3, y = 1$

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Question 8 of 20

5.0 Points

Solve for x and y .

$$\frac{(4+x) + (y+3)i}{2-i} = 3+i$$

☐ A. $x = 2, y = -4$

☐ B. $x = 1, y = -2$

☐ C. $x = 3, y = -4$

☐ D. $x = 1, y = -4$

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Question 9 of 20

5.0 Points

Solve by factoring.

$$3x^2 = -18x$$

☐ A. 0, -6

☐ B. 0, 6

☐ C. 6, -6

☐ D. 2, 6

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Question 10 of 20

5.0 Points

Use the discriminant to determine the number of real roots the equation has.

$$3x^2 - 5x + 1 = 0$$

☐ A. One real root (a double root)

☐ B. Two distinct real roots

☐ C. Three real roots

☐ D. None (two imaginary roots)

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Question 11 of 20

5.0 Points

Use the discriminant to determine the number of real roots the equation has.

$$7x^2 + 3x + 1 = 0$$

- ☐ A. One real root (a double root)
- ☐ B. Two distinct real roots
- ☐ C. Three real roots
- ☐ D. None (two imaginary roots)

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Question 12 of 20

5.0 Points

The product of two consecutive positive even integers is 360. Find the integers.

- ☐ A. 18 and 20
- ☐ B. 10 and 12
- ☐ C. 14 and 16
- ☐ D. 16 and 18

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Question 13 of 20

5.0 Points

Two trains travel at right angles to each other after leaving the same train station at the same time. One hour later they are 100 miles apart. If one travels 20 miles per hour faster than the other, what is the rate of the faster train?

- ☐ A. 60 mph
- ☐ B. 70 mph
- ☐ C. 80 mph
- ☐ D. 90 mph

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Question 14 of 20

5.0 Points

A boater travels 12 miles upstream against a 2 mi/h current, then returns downstream to the starting point. If the entire trip took 8 hours, what is the rate of the boat in still water?

- ☐ A. 3 mi/h
- ☐ B. 4 mi/h
- ☐ C. 5 mi/h
- ☐ D. 6 mi/h

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Question 15 of 20

5.0 Points

Solve:

$$\sqrt{3x+3} = 3$$

- ☐ A. 2

- ☐ B. 0
- ☐ C. -2
- ☐ D. No solution

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Question 16 of 20

5.0 Points

Solve:

$$\sqrt{5x+1} - 1 = 3x$$

- ☐ A. 0, -1/9
- ☐ B. 0, 1/9
- ☐ C. 0
- ☐ D. No solution

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Question 17 of 20

5.0 Points

Solve.

$$|x + 5| = 1 - 3x$$

- ☐ A. 3
- ☐ B. -1
- ☐ C. -1, 3
- ☐ D. No solution

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Question 18 of 20

5.0 Points

Solve.

$$|10x - 1| = x - 10$$

- ☐ A. -1, 1
- ☐ B. 1
- ☐ C. -1
- ☐ D. No solution

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Question 19 of 20

5.0 Points

Solve.

$$5x^{2/3} - 13x^{1/3} - 6 = 0$$

- ☐ A. -14/122, 25
- ☐ B. -8/125, 27
- ☐ C. 15/123, 26
- ☐ D. -8/12, 20

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Question 20 of 20

5.0 Points

Solve.

$$(x^2 - x)^2 - 14(x^2 - x) + 24 = 0$$

- ☐ A. 3, 1, -2, -4
- ☐ B. 1, -3, -4, 2
- ☐ C. -3, -1, 2, 4
- ☐ D. -2, 3, -4, 1

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