

MATH105. COLLEGE ALGEBRA (MATH105-2) &gt; TAKE ASSESSMENT: EXAM 1

 **Take Assessment: Exam 1****Name** Exam 1**Instructions****Multiple Attempts** This Test allows 2 attempts. This is attempt number 1.**Force Completion** This Test can be saved and resumed later.▼ **Question Completion Status:****Question 1****5 points**[Save](#)

Find an equation for the line with the given properties. Express the answer using the general form of the equation of a line.

Parallel to the line  $3x - 4y = 1$ ; containing the point  $(-1, 0)$

$3x - 4y = 4$

$3x - 4y = -3$

$-4x - 3y = 4$

$-4x - 3y = 3$

**Question 2****5 points**[Save](#)

Solve the problem.

If  $(a, 3)$  is a point on the graph of  $y = 2x - 5$ , what is  $a$ ?

1

-1

4

-4

**Question 3****5 points**[Save](#)

Find an equation for the line with the given properties. Express the answer using the slope-intercept form of the equation of a line.

Slope = 0; containing the point  $(-8, -1)$

$y = -1$

$x = -8$

$y = -8$

$x = -1$

**Question 4****5 points**[Save](#)

Find an equation for the line with the given properties. Express the answer using the slope-intercept form of the equation of a line.

horizontal; containing the point  $(-7, -2)$

$x = -7$

$x = -2$

$y = -7$

$y = -2$

**Question 5****5 points**[Save](#)

Solve the problem.

How much pure acid should be mixed with 2 gallons of a 50% acid solution in order to get an 80% acid solution?

3 gal

5 gal

8 gal

1 gal

**Question 6****5 points**[Save](#)

Use the discriminant to determine whether the quadratic equation has two unequal real solutions, a repeated real solution, or no real solution without solving the equation.

$$x^2 - 3x + 6 = 0$$

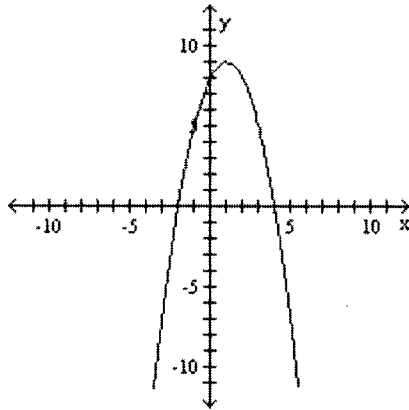
repeated real solution

two unequal real solutions

no real solution

**Question 7****5 points**[Save](#)

List the intercepts of the graph.



- (-2, 0), (0, 8), (0, 4)  
 (-2, 0), (0, 8), (4, 0)  
 (0, -2), (8, 0), (0, 4)  
 (0, -2), (0, 8), (4, 0)

## Question 8

5 points [Save](#)

Find the slope and y-intercept of the line.

$$x - y = 0$$

- slope = 1; y-intercept = 0  
 slope = 1; y-intercept = 1  
 slope = -1; y-intercept = 0  
 slope = 1; y-intercept = -1

## Question 9

5 points [Save](#)

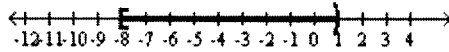
Find the real solutions of the equation by factoring.

$$\frac{x-7}{x} = \frac{48}{x+7}$$

- {7, 1}  
 {49, -1}  
 {49, 1}  
 {7, -1}

## Question 10

5 points [Save](#)Express the graph shown using interval notation. Also express it as an inequality involving  $x$ .



- $(-8, 1)$   
 $-8 < x < 1$   
  $[-8, 1)$   
 $-8 \leq x < 1$   
  $[-8, 1]$   
 $-8 \leq x \leq 1$   
  $(-8, 1]$   
 $-8 < x \leq 1$

## Question 11

5 points

[Save](#)

Solve the problem.

Tracy can wallpaper 5 rooms in a new house in 15 hours. Together with her trainee they can wallpaper the 5 rooms in 10 hours. How long would it take the trainee working by herself to do the job?

- 15 hr  
 60 hr  
 45 hr  
 30 hr

## Question 12

5 points

[Save](#)Write the expression in the standard form  $a + bi$ .

$$i^{-55}$$

- 1  
 -1  
 -i  
 i

## Question 13

5 points

[Save](#)Write the standard form of the equation of the circle with radius  $r$  and center  $(h, k)$ .

$$r = 10; (h, k) = (4, -10)$$

- $(x + 4)^2 + (y - 10)^2 = 100$   
  $(x + 4)^2 + (y - 10)^2 = 10$   
  $(x - 4)^2 + (y + 10)^2 = 100$   
  $(x - 4)^2 + (y + 10)^2 = 10$

## Question 14

5 points

[Save](#)

**Solve the problem.**

4 - i is a solution of a quadratic equation with real coefficients. Find the other solution.

- 4 - i
- 4 + i
- 4 + i
- 4 - i

**Question 15**

**5 points** [Save](#)

**Solve the equation by the Square Root Method.**

$$(2x + 3)^2 = 25$$

- {1, 4}
- {-14, 14}
- {-4, 1}
- {0, 1}

**Question 16**

**5 points** [Save](#)

**Solve the problem.**

At Bargain Car Rental, the cost of renting an economy car for one day is \$19.95 plus 20 cents per mile. At Best Deal Car Rental, the cost of renting a similar car for one day is \$24.95 plus 15 cents per mile. Solve the inequality  $24.95 + 0.15x < 19.95 + 0.20x$  to find the range of miles driven such that Best Deal is a better deal than Bargain.

- $x < 10$  mi
- $x > 100$  mi
- $x < 100$  mi
- $x > 10$  mi

**Question 17**

**5 points** [Save](#)

**Decide whether or not the points are the vertices of a right triangle.**

$(-9, 0), (-7, 4), (-5, 3)$

- No
- Yes

**Question 18**

**5 points** [Save](#)

**Use the discriminant to determine whether the quadratic equation has two unequal real solutions, a repeated real solution, or no real solution without solving the equation.**

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

- repeated real solution
- two unequal real solutions
- no real solution

**Question 19****5 points** [Save](#)**Solve the problem.**

Find the dimensions of a rectangle whose perimeter is 32 meters and whose area is 60 square meters.

- 5 m by 11 m
- 7 m by 9 m
- 6 m by 10 m
- 5 m by 9 m

**Question 20****5 points** [Save](#)**Solve the problem.**

Find all the points having an x-coordinate of 9 whose distance from the point (3, -2) is 10.

- (9, 6), (9, -10)
- (9, 13), (9, -7)
- (9, -12), (9, 8)
- (9, 2), (9, -4)

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