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

Solve the problem.

It costs $44 per hour plus a flat fee of $23 for a plumber to make a house call. After writing an equation for this situation, suppose the total cost to have a plumber come to a house is $331. How many hours did the plumber work?

17 hr

7 hr

6 hr

18 hr

Question 2 **5 points** Save

Solve the problem.

How many gallons of a 30% alcohol solution must be mixed with 60 gallons of a 14% solution to obtain a solution that is 20% alcohol?

27 gal

7 gal

12 gal

36 gal

Question 3 **5 points** Save

Find the slope of the line containing the two points.

(-4, 8); (-5, -4)

$-\frac{1}{12}$

- 12

$\frac{1}{12}$

12

Question 4 **5 points** Save

Solve the problem.

Find a positive value of k such that the equation $x^2 + kx + 9 = 0$ has a repeated real solution.

4

6

5

7

Question 5 **5 points** Save

Write the expression in the standard form a + bi.

If $z = 9 - 3i$, evaluate $z + \overline{z}$.

-6i

18

18 + 6i

18 - 6i

Question 6 **5 points** Save

Find the real solutions of the equation.

$\sqrt{2 - 3\sqrt{x}} = 6$

$\left\{-\frac{\sqrt{102}}{3}\right\}$

$\left\{\frac{\sqrt{102}}{3}\right\}$

$\left\{\frac{\sqrt{6}}{3}\right\}$

no real solution

Question 7 **5 points** Save

Write the expression in the standard form a + bi.

(4 + 8i)(2 - 5i)

-32 + 36i

48 + 4i

$-40i^2 - 4i + 8$

48 - 4i

Question 8 **5 points** Save

Solve the equation.

3x = 7

$\{-\frac{7}{3}\}$

$\{\frac{7}{3}\}$

$\{-\frac{3}{7}\}$

$\{\frac{3}{7}\}$

Question 9 **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 10 **5 points** Save

Solve the problem.

The manager of a coffee shop has one type of coffee that sells for $5 per pound and another type that sells for $11 per pound. The manager wishes to mix 70 pounds of the $11 coffee to get a mixture that will sell for $7 per pound. How many pounds of the $5 coffee should be used?

70 lb

105 lb

140 lb

210 lb

Question 11 **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

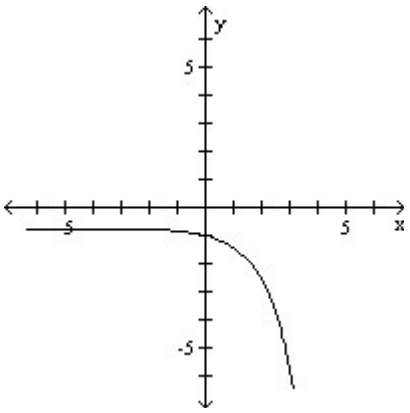
3x - 4y = -3

-4x - 3y = 4

-4x - 3y = 3

Question 12 **5 points** Save

List the intercepts of the graph.



(0, -1)

(0, 0)

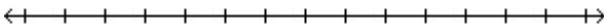
(-1, 0)

(-1, -1)

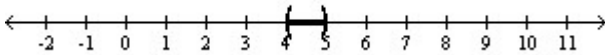
Question 13 **5 points** Save

Solve the inequality. Express your answer using interval notation. Graph the solution set.

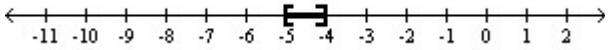
$-20 \le -3x - 5 \le -17$



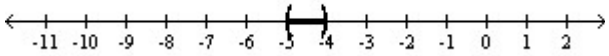
(4, 5)



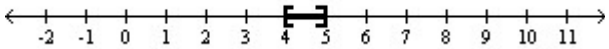
[-5, -4]



(-5, -4)



[4, 5]



Question 14 **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 15 **5 points** Save

Solve the problem.

The manager of a candy shop sells chocolate covered peanuts for $6 per pound and chocolate covered cashews for $13 per pound. The manager wishes to mix 80 pounds of the cashews to get a cashew-peanut mixture that will sell for $11 per pound. How many pounds of peanuts should be used?

32 lb

112 lb

16 lb

56 lb

Question 16 **5 points** Save

Find the slope and y-intercept of the line.

$x - y = 6$

slope = 1; y-intercept = 6

slope = -1; y-intercept = 6

slope = 1; y-intercept = -6

slope = -1; y-intercept = -6

Question 17 **5 points** Save

Write the standard form of the equation of the circle with radius r and center (h, k).

$r = 3$; $(h, k) = (0, 0)$

$x^2 + y^2 = 9$

$(x - 3)^2 + (y - 3)^2 = 9$

$x^2 + y^2 = 3$

$(x - 3)^2 + (y - 3)^2 = 3$

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

Write the standard form of the equation of the circle with radius r and center (h, k).

r = 12; (h, k) = (5, 0)

$x^2 + (y + 5)^2 = 12$

$x^2 + (y - 5)^2 = 12$

$(x - 5)^2 + y^2 = 144$

$(x + 5)^2 + y^2 = 144$

Question 20 **5 points** Save

Name the quadrant in which the point is located.

(15, -16)

I

IV

II

III

Save Submit