## A2 Unit 2 Test

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1. The system of equations shown has a solution of (x, y). What is the value of 3x - 2y? x + y = 10

$$2x - 3y = 12$$

- 2. Solve the system of equations for (x, y). y = -2x - 46x + 3y = 5
- 3. Solve the system for (x, y). y = -5x + 2-5x + 3y = 38
- 4. For what value of A will the system shown have infinitely many solutions? Ax - 2y = 124x - 6y = 36
- 5. Cece and Owen are coworkers and are comparing the number of hours they are scheduled to work next week. Cece is scheduled to work three times as many hours as Owen. Combined, they are scheduled to work 24 hours. How many hours is Owen scheduled to work?

6. Jalen and Joseph are brothers who are each saving money for a car. The two lines shown on the graph model the total amount of money, y, that Jalen and Joseph each have deposited into their savings account x weeks after opening the account.

a. How much money does Joseph deposit each week?

- b. Write a system of equations to describe the scenario.
- c. The intersection (2, 200) is marked. Interpret this point in the context of the problem.
- -350 -300 -250 (2, 200) -200 -2
- 7. A television network is creating the weekly program schedule for the fall TV lineup. There are two different types of programs: comedies or dramas. The comedy programs are 30 minutes and the dramas are 60 minutes. The network needs to schedule 168 hours of programs to fill the week. The network schedules 230 programs total for the week. How many of each type of program was scheduled?
- 8. Graph the system of inequalities.

$$y < 3x-5 \ y \leq rac{1}{3}x+1$$



- 9. The school drama club is selling tickets for their spring musical. The school auditorium can hold up to 620 people. They charge \$8 for adult tickets and \$5 for student tickets. In order to pay for the expenses of the show, they need to sell at least \$4000 worth of tickets.
  - a. Write a system of inequalities relating the number of adult tickets, a, and the number of student tickets, s.
  - b. What is the lowest number of total tickets that the drama club can sell to meet their need of \$4000 in sales?
- 10. Solve the system of equations for x, y, and z.

2x + 5y + 3z = 34-2x - 5y + z = -146y + z = 23