

NAME:

DATE:

A2.Q1.BERMEL/LEMBO:

SYSTEMS OF EQUATIONS

(DAY S1)

MASTERY PRACTICE

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1. In a video game a player earns points for collecting Gold and Silver coins.

Player 1 collects 3 Gold and 3 Silver coins for a total of 15 points.

Player 2 collects 5 Gold and 6 Silver coins for a total of 26 points.

How many points are each the Gold and Silver coins worth in this game?

A. Write the system of equations.

B. Does $G = 1$ point and $S = 4$ points work for both players? Show.

C. Does $G = 2.8$ points and $S = 2$ points work for both players? Show.

D. Find the solution.

The solution is the unique combination that works for both players (both equations).

2. In a video game a player earns points for each badge collected and loses points for each skull that gets touched.

Player 1 collects 15 badges and runs into 17 skulls for a total point value of -290 points.

Player 2 collects 70 badges and runs into 21 skulls for a total point value of 980 points.

How many points is a badge worth and how many points is a skull worth?

A. Write the system of equations.

B. Does $B = 20$ points and $S = 20$ points work for both players? Show.

C. Does $B = 60$ points and $S = 70$ points work for both players? Show.

D. Find the solution.

The solution is the unique combination that works for both players (both equations).

3. Ale' and Makayla go to a fair to try some local food. There are food trucks selling hot dogs and cheeseburgers. Ale' buys one hot dog and four cheeseburgers for \$18. Makayla buys two hot dogs and one cheeseburger for \$8. Write, but do not solve, a system of equations that could be used to find the price of each food item?

4. Zoe and Janelly go to the pet store to buy a few things for their dogs. The pet store is having a sale on chew toys and dog bowls. Zoe buys 3 chew toys and 1 dog bowl for \$23. Janelly buys 1 chew toy and 2 dog bowls for \$21. Write, but do not solve, a system of equations that could be used to find the price of each item?

5. Jade sells tickets for admission to the school play. Admission costs \$6 for adults and \$4 for children. Jade sold 21 tickets and collected a total of \$104. How many children tickets did Jade sell? Write, but do not solve, a system of equations that could be used to find how many adult tickets Jade sold?

6. A sporting goods store sells right-handed and left-handed baseball gloves. In one month, 12 gloves were sold for a total revenue of \$528. Right-handed gloves cost \$48 and left-handed gloves cost \$36. Write, but do not solve, a system of equations that could be used to find how many right-handed gloves were sold?

A LOOK BACK:

7. (F3) Consider the function $g(x) = \begin{cases} 2-x & \text{if } x > 0 \\ 4-5x^2 & \text{if } x \leq 0 \end{cases}$

Evaluate each A - F

A. $g(3)$

B. $g(8)$

C. $g(-2)$

D. $g(-1)$

E. $g(1)$

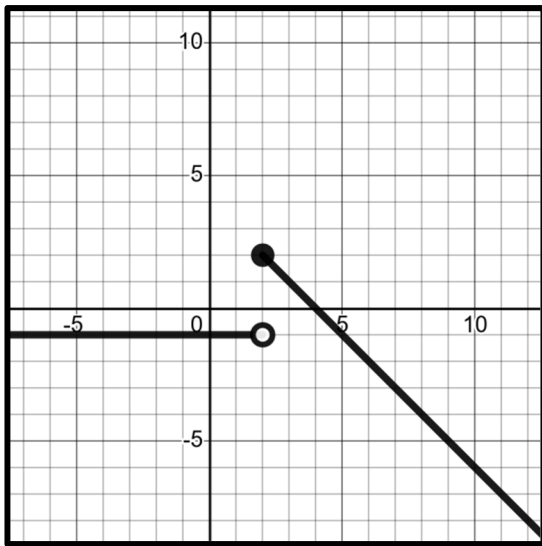
F. $g(10)$

G. Find the “y-intercept”. Show the function notation that leads to this answer.

H. Is $x = 2$ a zero of the function? Show.

I. Is $x = 6$ a zero of the function? Show.

8. (F4) Let $y = g(x)$



A. On what interval of x is the function decreasing?

B. On what interval of x is the function constant?

C. On what interval of x is the function increasing?

D. Find the “y-intercept” and show the function notation that leads to the answer.

E. Find the zero(s) of the function and show the function notation that leads to the answer(s).