

Some Questions From Khan Academy

No Calculator

1. A piece of glass with an initial temperature of 99°C is cooled at a rate of 3.5°C per minute. At the same time, a piece of copper with an initial temperature of 0°C is heated at 2.5°C per minute. Which of the following systems of equations can be used to solve for the temperature, T , in degrees Celsius, and the time, m , in minutes, when the glass and copper reach the same temperatures?

A) $T = 99 + 3.5m$

$$T = 2.5m$$

B) $T = 99 - 3.5m$

$$T = 2.5m$$

C) $T = 99 + 2.5m$

$$T = 3.5m$$

D) $T = 99 - 2.5m$

$$T = 3.5m$$

2. Ethan sells e candy bars for \$2.50 apiece and Chloe sells c candy bars for \$2.00 apiece to raise money for a school trip. Ethan sold 15 fewer candy bars than Chloe, but he also got a \$6.00 donation. If Chloe and Ethan raised the same amount of money, which of the following systems could be used to find how many candy bars each sold?

A) $2c = 2.5e + 6$

$$c = e - 15$$

B) $2c = 2.5e + 6$

$$e = c - 15$$

C) $2c + 6 = 2.5e$

$$c = e - 15$$

D) $2c + 6 = 2.5e$

$$e = c - 15$$

3. Liam deposits l dollars into an account that earns 0.9% in simple interest each year. Grace deposits g dollars into an account that earns 1.1% in simple interest each year. Both Liam and Grace let their money earn interest for one year and make no further deposits. If Liam's initial deposit was \$800 more than Grace's, and if both Liam and Grace earn the same amount of interest after one year, which of the following systems of equations could be used to find their initial deposits?

A) $0.009l + 800 = 0.011g$

$$l = g$$

B) $0.009l = 0.011g + 800$

$$l = g$$

C) $0.009l = 0.011g$

$$l + 800 = g$$

D) $0.009l = 0.011g$

$$l = g + 800$$

4. Each cup of cooked brown rice has 216 calories and 5 grams of protein. Each cup of kidney beans has 220 calories and 16 grams of protein. Which of the following systems of equations could be used to determine the amount of rice, r , in cups, and the amount of beans, b , in cups, that should be eaten in order to consume 435 calories and 18.25 grams of protein?

A) $216r + 5b = 435$

$$220r + 16b = 18.25$$

B) $216b + 5r = 435$

$$220b + 16r = 18.25$$

C) $216r + 220b = 435$

$$5r + 16b = 18.25$$

D) $216b + 220r = 435$

$$5b + 16r = 18.25$$

5. Eva maintained an average speed of 35 miles per hour (mph) for the first m hours of her road trip. For the next n hours of the trip, she drove at an average speed of 60 mph. Eva drove a total of 225 miles in 4.5 hours. Which of the following systems of equations could be used to find how many miles Eva drove in the first m hours of the trip?

A) $m + n = 225$

$$35m + 60n = 4.5$$

B) $m + n = 4.5$

$$35m + 60n = 225$$

C) $m + n = 225$

$$60m + 35n = 4.5$$

D) $m + n = 4.5$

$$60m + 35n = 225$$

Calculator OK

Multiple Choice

6. Ricardo has two types of assignments for his class. The number of mini assignments, m , he has is 1 fewer than twice the number of long assignments, l , he has. If he has 46 assignments in total, which of the following systems of equations can be used to correctly solve for m and l ?

A) $m = 2l - 1$

$$m + l = 46$$

B) $m = 2l - 1$

$$m = l + 46$$

C) $l = 2m - 1$

$$m + l = 46$$

D) $l = 2m - 1$

$$m = l + 46$$