USA TEST PREP

Grade 8 Mathematics EOG (GSE) Quiz

Expressions and Equations - (MGSE8.EE.8c) Solve Problems Leading To 2 Linear Equations

Student Name: _____   Date: _____

Teacher Name: THUYNGA DAO   Score: _____

1) Casey is making a flower arrangement with roses(r) and carnations(c). The cost of each rose is $0.50 and the cost of each carnation is $0.10. The arrangement has a total of 80 flowers and the flower cost was $20. How many of each flower did Casey put in her arrangement?

Which system of equations matches the situation?

A) $\begin{cases} r + c = 20 \\ .50r + .10c = 80 \end{cases}$

B) $\begin{cases} r + c = 80 \\ .50r + .10c = 20 \end{cases}$

C) $\begin{cases} r + c = .60 \\ .10r + .50c = 80 \end{cases}$

D) $\begin{cases} r + c = 80 \\ 10r + 50c = 20 \end{cases}$

2) At a high school football game Jamie buys 6 hot dogs and 4 soft drinks for $13. Amy buys 3 hot dogs and 4 soft drinks for $8.50. What is the price of a hot dog?
 A) $0.75
 B) $1.00
 C) $1.25
 D) $1.50

3) Not including tax, 14 pieces of clothing cost $107. Pants cost $12.50 and shirts cost $4.00. No other types of clothes were purchased. Which system of equations could be used to solve for the number of pants (p) and the number of shirts (s) bought?

A) $\begin{cases} p + s = 107 \\ 12.5p + 4s = 14 \end{cases}$

B) $\begin{cases} p + s = 14 \\ 12.5p + 4s = 107 \end{cases}$

C) $\begin{cases} p + s = 16.5 \\ 12.5p + 4s = 14 \end{cases}$

D) $\begin{cases} 16.5(p + s) = 14 \\ 12.5p + 4s = 107 \end{cases}$

4) Not including tax, a total of 19 pens and markers cost $11.50. The pens cost $0.25 each, and the markers cost $0.75 each. Which system of equations could be used to solve for the number of pens (p) and the number of markers (m) bought?

A) $\begin{cases} p + m = 30.5 \\ 0.25p = 0.75m \end{cases}$

B) $\begin{cases} p+m=19 \\ 0.25p+0.75m=11.5 \end{cases}$

C) $\begin{cases} p+m=11.5 \\ 0.25p+0.75m=19 \end{cases}$

D) $\begin{cases} 19(p+m)=1.00 \\ 0.25p+0.75m=11.5 \end{cases}$

5) Sharon is making 100 liters of punch for a party. The punch contains ginger ale (g) and fruit juice (f). The cost of the ginger ale is $1 per liter and the fruit juice is $1.50 per liter. If Sharon spent a total of $130, how many liters of each did she put in the punch?

Which system of equations matches the situation?

A) $\begin{cases} g+f=130 \\ g+1.5f=100 \end{cases}$

B) $\begin{cases} g+f=100 \\ 1.5g+f=130 \end{cases}$

C) $\begin{cases} g+f=100 \\ g+1.5f=130 \end{cases}$

D) $\begin{cases} g+f=230 \\ g+1.5f=100 \end{cases}$

6) Joyce wants to mix granola and raisins together to make a snack for her class. Granola costs $2 per pound and raisins cost $4.50 per pound. Joyce is willing to spend $37.50 and wants to make 15 pounds of trail mix. Which system of equations could Joyce use to figure out how many pounds of granola (g) and raisins (r) she should buy?

A) $\begin{cases} g+r=37.5 \\ 2g+4.5r=15 \end{cases}$

B) $\begin{cases} g+r=15 \\ 4.5g+2r=37.5 \end{cases}$

C) $\begin{cases} g+r=15 \\ 2g+4.5r=37.5 \end{cases}$

D) $\begin{cases} 15(g+r)=6.5 \\ 2g+4.5r=52.5 \end{cases}$

7) Shaun is 4 years older than her sister Charmaine. If the sum of their ages is 16 how old is Charmaine?
   A)   4 years old
   B)   6 years old
   C)   8 years old
   D)   10 years old

8) Joshua is the place kicker for his college football team. Last season he kicked 42 times and never missed. Each field goal scored 3 points, and each extra point scored 1 point, for a total of 86 points.

How many field goals did Joshua kick?
   A)   19
   B)   20
   C)   22
   D)   23

9)

> Choice A: 3 nights and one meal for $ 250
> Choice B: 3 nights and 6 meals for $330

A motel offers the specials shown. What price is the motel charging per night?
   A) $16
   B) $19
   C) $77
   D) $78

10) You are buying decorations for a birthday party. Six rolls of crepe paper and 20 balloons cost $11.90. After you start decorating, you need more supplies. You buy 2 more rolls of crepe paper and 15 more balloons for $6.05. How much did each roll of crepe paper cost?
   A) $1.15
   B) $1.58
   C)   22.6¢
   D)   25¢

11) Marty made a $220 bank deposit using $10 bills and $5 bills. She gave the teller a total of 38 bills, how many $5 bills were in the deposit?
   A)   6 five-dollar bills
   B)   28 five-dollar bills
   C)   32 five-dollar bills
   D)   34 five-dollar bills

12) Car rental agency A charges $50 per day plus 10 cents per mile driven. Agency B charges $20 per day plus 30 cents per mile driven. For a one-day rental it is cheaper to rent from agency A if you drive more than
   A)   50 miles.
   B)   100 miles.
   C)   125 miles
   D)   150 miles.

13) Rhianna invests $1200 in stock and bonds. The stock pays 9% interest and the bonds pay 6% interest. If the total ANNUAL interest is $96, how much is invested in the stock alone?
   A) $400
   B) $500
   C) $700
   D) $800

14) Easy to Find, a computer data base, charges \$30/h during peak hours to access its records. The charge during off-peak hours is \$12/h. Indigo Research was billed \$876.00 last month for 40 hours of access time. Using a system of equations, find the number of hours charged for usage during peak times.

- A) 16 hours
- B) 18 hours
- C) 22 hours
- D) 24 hours

15) A master electrician earns \$62 per hour. His apprentice earns \$40 per hour. The master electrician works 3 hours more than the apprentice. If together they are paid \$492, how much does the master electrician earn?

- A) \$292
- B) \$312
- C) \$332
- D) \$372

16) A weather plane took to the skies to measure the speed of the jet stream. The plane flew 1920 km with the jet stream as a tail wind. Then, it returned to its original location. The eastbound flight took 2 hours, and the westbound flight took 3.2 hours.

Which system of equations can be used to find the speed of the jet stream and the speed of the plane? What was the speed of the jet stream? (p = plane, w = wind)

- A) p + w = 960; p - w = 600; jet stream's speed = 180 km/h
- B) p + w = 960; p - w = 500; jet stream's speed = 180 km/h
- C) p - w = 960; p + w = 600; jet stream's speed = 200 km/h
- D) p + w = 960; p - w = 600; jet stream's speed = 160 km/h

17) The value p (price) at which the supply of a crop equals the demand for that crop is called the equilibrium price. The equation for the supply of soy beans is S = 0.3p + 3 The equation for the demand of soybeans is D = -0.5p + 9. Determine the equilibrium price.

- A) \$6.50
- B) \$6.75
- C) \$7.00
- D) \$7.50