Math in the Real World Drill

Question 1 of 16

A machine punches x plates per hour for 4 hours and then y plates per hour for 2 hours. Which of the following is an expression for the average number of plates punched per hour by the machine for the entire 6 hours?

- ○ $2x + 4y$
- ○ $\frac{2x + 4y}{6}$
- ○ $\frac{3xy}{2}$
- ○ $\frac{4x + 2y}{6}$
- ○ $4x + 2y$

Question 2 of 16

Twenty bottles contain a total of 8 liters of apple juice. If each bottle contains the same amount of apple juice, how much juice, in liters, is in each bottle?

[ ]

Question 3 of 16

If 12 equally priced melons cost a total of $9.60, then what is the cost of 9 of these melons?

- ○ $7.00
- ○ $7.20
- ○ $8.00
- ○ $8.45
- ○ $8.65

Question 4 of 16

If $2a = 3b = 4c = 72$, then what is average (arithmetic mean) of a, b, and c ?

- ○ 39
- ○ 26
- ○ 24
- ○ 18
- ○ 9

Question 5 of 16

Jenny notices a consistent, increasing pattern in the number of geese she sees flying over her house each day. If she sees 5 geese on Monday, 8 geese on Tuesday, 11 geese on Wednesday, and 14 geese on Thursday, and the next week starts on Sunday, on which of the following days of the next week will she see a prime number of geese if the pattern continues?

Indicate all such values.

- ☐ Sunday
- ☐ Monday
- ☐ Tuesday
- ☐ Thursday
- ☐ Friday
- ☐ Saturday

Question 6 of 16

Set B contains only positive, even integers. Which of the following could be the median of set B ?

Indicate all such values.

- ☐ –2
- ☐ 0
- ☐ 1
- ☐ 3
- ☐ 3.5
- ☐ 4

Question 7 of 16

A car manufacturer has 2,992 forklifts, which is approximately one forklift for every 48.9 employees. Which of the following is the closest approximation, in thousands, of the number of employees employed by the manufacturer?

- ○ 60
- ○ 100
- ○ 150
- ○ 175
- ○ 300

Question 8 of 16

A recipe for 4 loaves of bread requires $\frac{3}{4}$ cups of sugar. If Chris wants to make 2 loaves of bread, which of the following calculations yields the amount of sugar he needs?

Indicate all such values.

- ☐ $\frac{3}{4} \times \frac{1}{2}$
- ☐ $\frac{3}{4} \times 2$
- ☐ $\frac{3}{4} \div \frac{1}{2}$
- ☐ $\frac{3}{4} \div 2$

Question 9 of 16

V is a sequence of numbers in which every term after the first two is the average of the two previous terms. If the first term x is 16 more than the second term y, then which of the following represents the fifth term of the sequence, in terms y ?

- ○ $y - 2$
- ○ y
- ○ $y + 2$
- ○ $y + 4$
- ○ $y + 6$

Question 10 of 16

Set A contains only even integers. Which of the following CANNOT be the median of set A ?

- ○ –2
- ○ –1
- ○ 0
- ○ 0.5
- ○ 1

Question 11 of 16

A violinist needs 2 hours to tune a violin made in the twentieth century. To tune violins made before the twentieth century, the violinist needs twice as long, and for violins made after the twentieth century, she needs half as long. Which of the following groups of violins could she tune in 6 hours?

Indicate all such groups.

- ☐ Two violins made before the twentieth century
- ☐ Three violins made during the twentieth century
- ☐ One violin made during the twentieth century, one made before, and two made after
- ☐ Two violins made after the twentieth century, and one made before
- ☐ Two violins made after the twentieth century, and two made during the twentieth century

Question 12 of 16

$$2g = 6h$$

Quantity A	**Quantity B**
The ratio of g to h	$\frac{1}{3}$

- ○ Quantity A is greater.
- ○ Quantity B is greater.
- ○ The two quantities are equal.
- ○ The relationship cannot be determined from the information given.

Question 13 of 16

If 6 students have an average (arithmetic mean) score of 88 on an exam, and one of those students scored a 93 on the exam, what is the average score on this exam for the other 5 students?

- ◯ 84
- ◯ 85
- ◯ 86
- ◯ 87
- ◯ 89

Question 14 of 16

Let H be a sequence, h_1, h_2, h_3 ... h_4, such that each term after the first is two less than one-third of the previous term. If the fourth term in the sequence is 0, which of the following is the sum of the first and fifth term of the sequence?

- ◯ -2
- ◯ $25\frac{1}{3}$
- ◯ 26
- ◯ 76
- ◯ 78

Question 15 of 16

A bag of jellybeans has red and yellow jellybeans in a ratio of $c : d$. If there are r red jellybeans in the bag, which of the following represents the number of yellow jellybeans in the bag?

- ◯ $\frac{cd}{dr}$
- ◯ $\frac{dr}{c}$
- ◯ $\frac{cd}{r}$
- ◯ $d(c + r)$
- ◯ $d(r - d)$

Question 16 of 16

Miguel's bowling team bowled a practice round in preparation for their upcoming league game. The team's average (arithmetic mean) score for the practice round was 180. Miguel scored 190, Janice scored 200, and Thad scored 210. If no team member scored less than 165, and none of the remaining team members scored greater than 170, what is one possible value for the number of members on Miguel's team? (Note: Bowling scores are always positive integers.)