

1. A computer is discounted 20% from its original price because it didn't sell. The store took an additional 30% off the discounted price. Barbara purchased the computer for \$896. What was the number of dollars in the original price of the computer? 1. \_\_\_\_\_

2. Three partners invest 900 dollars to start a store. The second partner invests twice as much as the first, and the third invests three times as much as the second. How many dollars does the second partner invest? 2. \_\_\_\_\_

3. Kyle, Leah and Mel ran for student council. Twenty-five votes were cast, and the number of votes cast for each of the candidates was a prime number. In how many different ways could the votes have been distributed among the candidates? 3. \_\_\_\_\_

4. In the pattern, the  $n$ th letter of the alphabet is written  $n$  times. What letter will be in the 160th position? 4. \_\_\_\_\_

ABBCCDDDDDEEEEE...

5. Two vertical poles are 24 feet apart. One is 16 feet tall, and the other is 9 feet tall. A rope extends from the top of one pole to the point midway between them on the ground, and then to the top of the other pole. How many feet are in the length of the rope? 5. \_\_\_\_\_

6. A flight cabin screen reported altitudes and corresponding temperatures as shown below. A passenger conjectured that there was a decrease of  $1^\circ\text{F}$  for each increase of 250 feet in altitude, and he used that conjecture to predict the temperature at 31,000 feet. If the actual temperature at 31,000 feet was  $-47^\circ\text{F}$ , what was the number of degrees in the positive difference between the passenger's conjectured temperature and the actual temperature? 6. \_\_\_\_\_

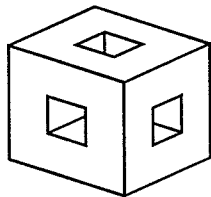
Altitude	Outside Temperature
21,000 feet	$-11^\circ\text{F}$
21,500 feet	$-13^\circ\text{F}$
25,500 feet	$-29^\circ\text{F}$

7. For how many different points  $(u, v)$  are the points  $(u, v)$ ,  $(3, 6)$ ,  $(5, 2)$  and  $(0, 0)$  the vertices of a parallelogram? 7. \_\_\_\_\_

8. Jenny's student ID number consists of ten digits. Based on the clues below, what is Jenny's student ID number? 8. \_\_\_\_\_

- Each digit is different.
- The product of the sixth and seventh digits is equal to the third digit.
- The fourth, eighth, and tenth digits are multiples of 3.
- The sum of the fourth and sixth digits is the same as the sum of the fifth and eighth digits.
- The second, third, sixth and seventh digits are powers of 2.
- The first, fifth, seventh and tenth digits are prime.

9. A cube of volume  $27 \text{ in}^3$  has square holes  $1'' \times 1''$  drilled through the center of each face and passing through the center of the cube. What is the number of cubic inches in the volume of the figure that remains? 9. \_\_\_\_\_



10. A hemispherical bowl with diameter 40 centimeters is completely full of punch. Caroline fills cylindrical glasses of height 10 cm and diameter 10 cm from the bowl. How many glasses can she completely fill? 10. \_\_\_\_\_