Name: _____ Class: _____ Date: _____ ID: A

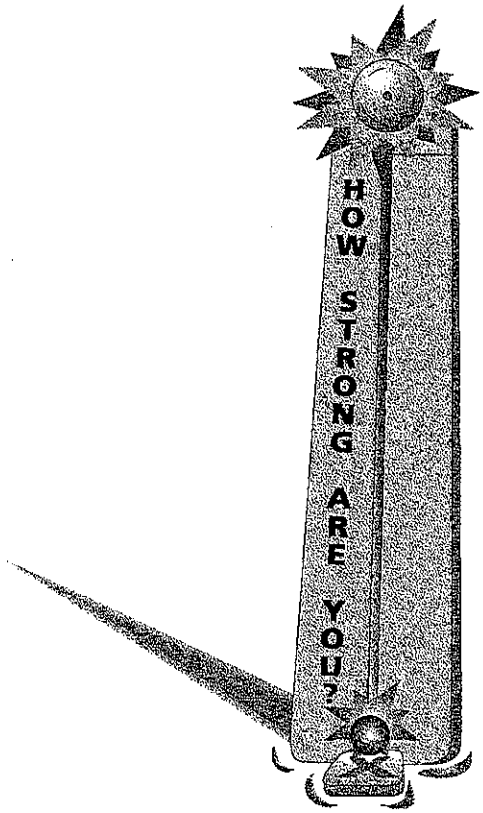
Summer Packet

Short Answer

1. The carnival game shown below tests strength. A player hits the block with a mallet and the force of the blow sends a metal ringer up the pole. If the player uses enough force, the ringer rings the bell at the top of the pole and the player receives the top prize of 100 points. The player receives fewer points for hits that only send the metal ringer part way up the pole. The points can be traded for tickets to rides at the carnival.

   a. Where should marks be made on the pole for each of the game point amounts? Mark them on the pole.

   10 points 25 points 35 points 70 points 85 points 100 points



   b. What fraction, decimal and percent of the pole would each of the marks in part (a) represent?

   c. What payoff, in game points, should be given for sending the metal ringer $\frac{1}{3}$ of the way up the pole?

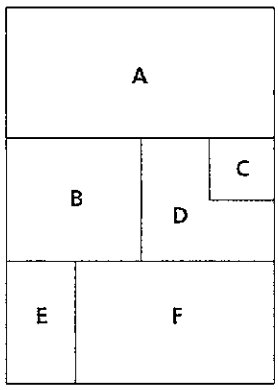
   d. What payoff, in game points, should be given for sending the ringer $\frac{3}{5}$ of the way up the pole?

   e. What payoff, in game points, should be given for sending the ringer $\frac{2}{8}$ of the way up the pole?

   f. What payoff, in game points, should be given for sending the ringer $\frac{3}{4}$ of the way up the pole?

g. Miki's hit sent the metal ringer $\frac{5}{8}$ of the way up the pole. Taylor's hit went $\frac{6}{9}$ of the way to the top. Who received the most game points? Why?

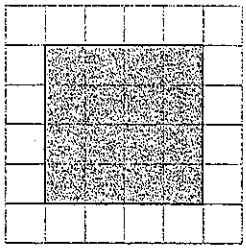
2. Jack and Phil are selling advertisements for the yearbook. A full-page ad will cost $240. Advertisers who want only a fraction of a page will be charged that fraction of $240. Jack and Phil's layout for one page is shown.

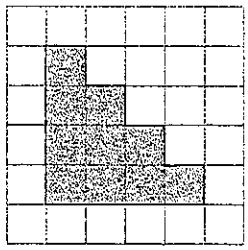


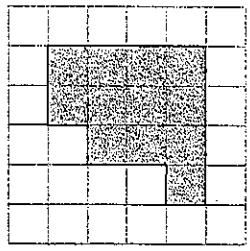
a. What fraction of the whole page does each of the six regions occupy?
b. How much should Jack and Phil charge an advertiser who wants to place an ad that fills area A? Explain how you found your answer.
c. How much should Jack and Phil charge an advertiser who wants to place an ad that fills area D?
d. How much should an ad that fills area F cost?
e. Jack and Phil have sold advertising space in areas B, E, and C.
i. How much did they collect for the three ads.
ii. What fraction of the page is left for other advertisers?

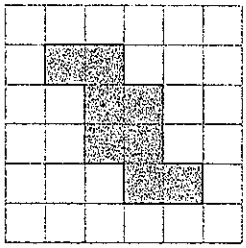
3. LiAnn works in the Olde Tyme Soda Shoppe. The shop sells chocolate shakes, double chocolate shakes, and triple chocolate shakes. A chocolate shake uses $\frac{1}{8}$ cup of chocolate syrup, a double chocolate shake uses $\frac{1}{4}$ cup of chocolate syrup, and a triple chocolate shake uses $\frac{3}{8}$ cup of chocolate syrup. How many shakes of each kind could she make with 3 cups of chocolate syrup?

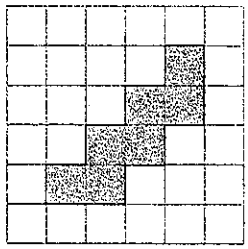
4. Find the area and perimeter of each figure below

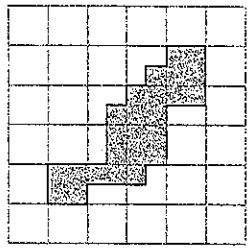
a. 

b. 

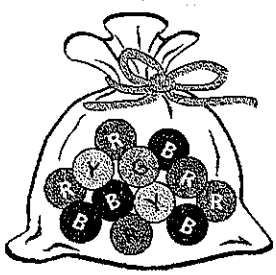
c. 

d. 

e. 

f. 

5. A bag contains one green marble, two yellow marbles, four blue marbles, and five red marbles.



a. hat is the probability of randomly drawing a blue marble from the bag?

b. If you double the number of green, yellow, blue, and red marbles in the bag, what will be the probability of drawing a blue marble?

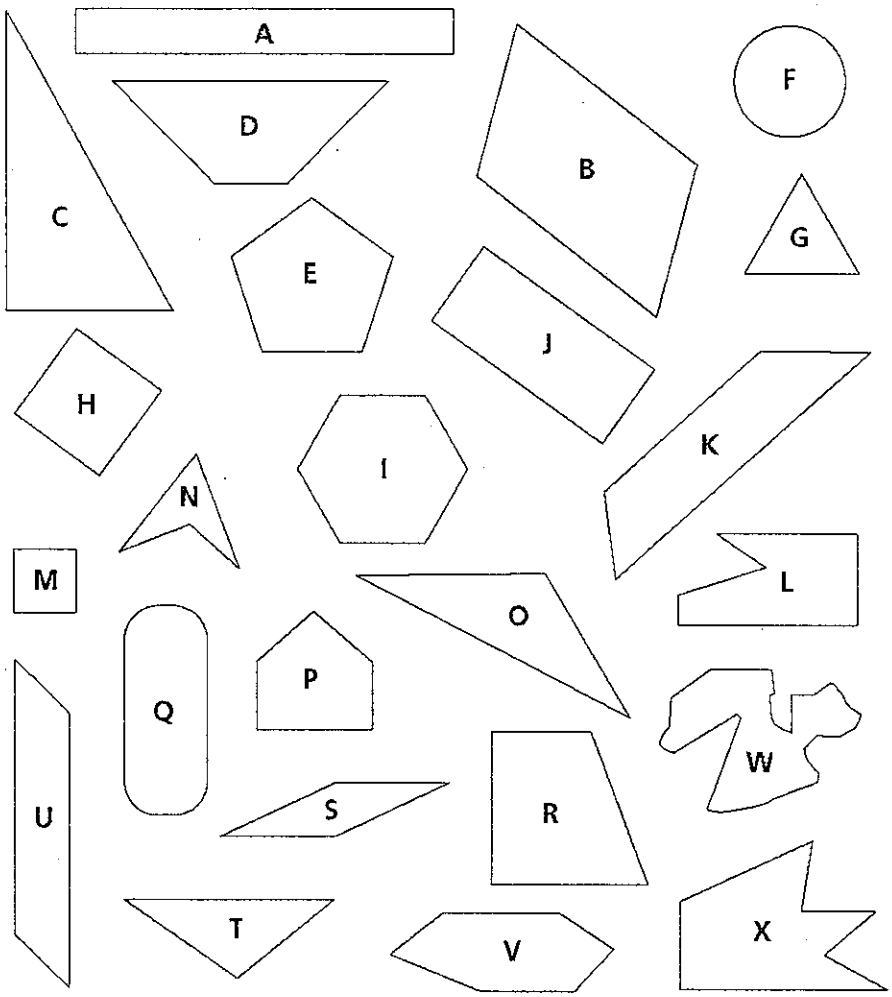
c. Compare your answers for part (a) and (b). Are they the same or different? Explain.

d. How many blue marbles would you need to add to the *original* bag of marbles to make the probability of drawing a blue marble $\frac{1}{2}$? Explain your reasoning.

6. Terrapin Crafts wants to rent between 35 and 40 square yards of space for a big crafts show. The space must be rectangular, and the side lengths must be whole numbers. Find the number(s) between 35 and 40 with the most factor pairs that gives the greatest number of rectangular arrangements to choose from.

7. Two radio stations are playing the #1 hit song "2 Nice 2 B True" by Anita and the Goody-2-Shoes. WMTH plays the song every 18 minutes. WMSU plays the song every 24 minutes. Both stations play the song at 3:00 P.M. When is the next time the stations will play the song at the same time?

Use these shapes for the following question.



8. The figures I, L, and V can be grouped together, but X would not belong in the group. Explain.
9. The figures E, G, H, I, and M can be grouped together, but S would not belong in the group. Explain.
10. The figures F, Q, W, and X can be grouped together, but N would not belong in the group. Explain.
11. The figures A, B, H, J, M, S, and U can be grouped together, but N would not belong in the group. Explain.