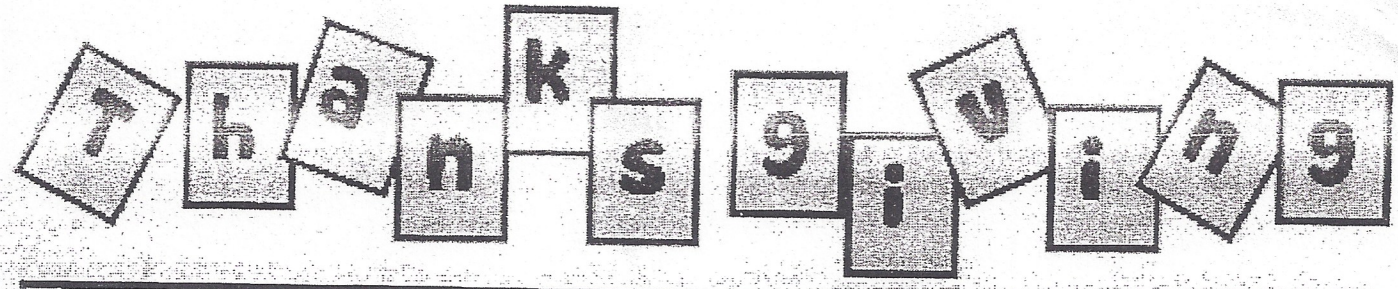
Name Answers Date

**You may use a calculator anywhere on this worksheet.**




**1) The letters of Thanksgiving are written on cards and placed in a bag. Ben reaches into the bag and pulls out a letter.**

A) What is the probability that the letter is a T? Give your answer as a fraction, decimal and percent.

$\frac{1}{12} = .08 = 8\%$

B) What is the probability that the letter is N? Give your answer as a fraction, decimal and percent.

$\frac{2}{12} = \frac{1}{6} = .1\overline{6} \approx 17\%$

C) What letter(s) is Ben most likely to pull from the bag? Explain.

G, N, I Probability of these letters is 17% which is greater than any others which are all 8%.

D) What letter(s) is Ben least likely to pull from the bag? Explain.

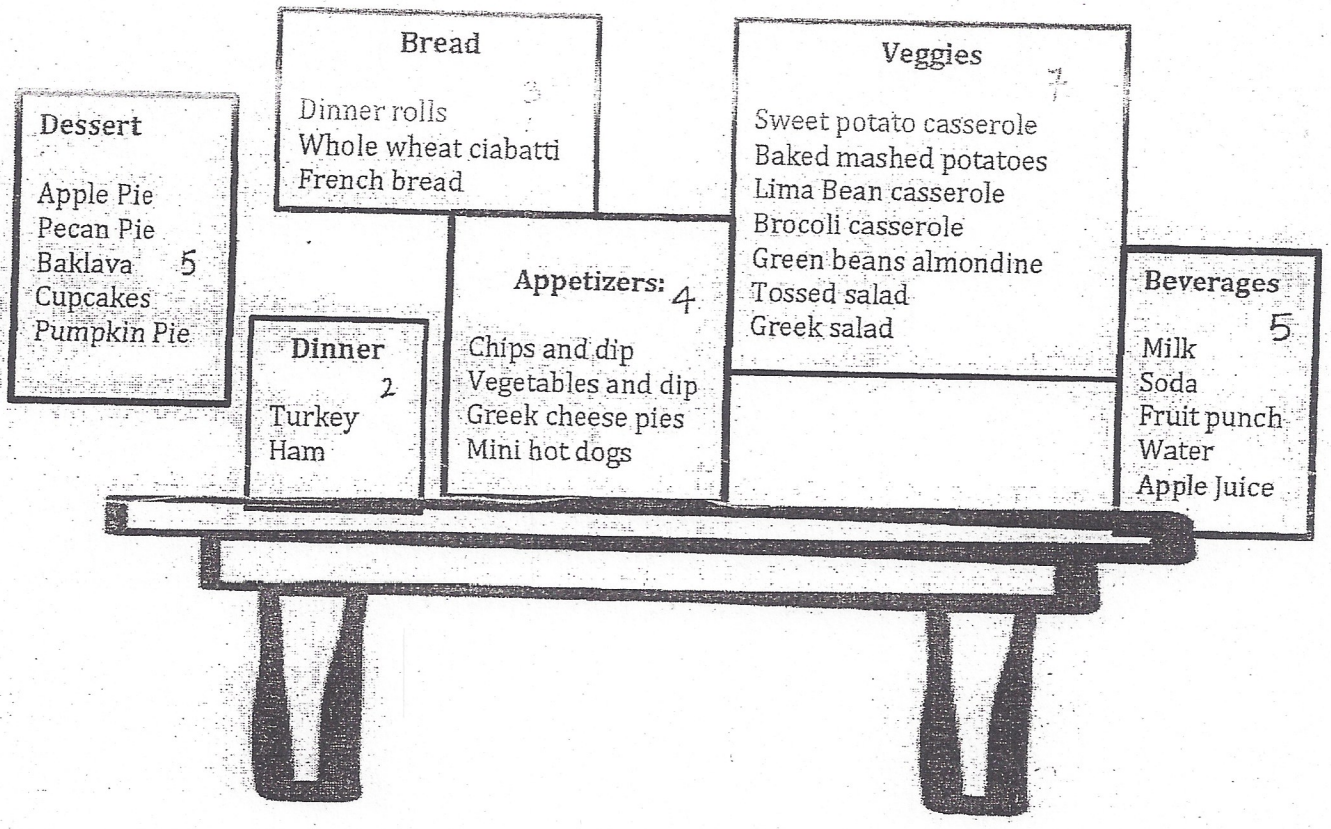
T, H, A, K, S, V Probability of these letters is 8% which is less than the 17% of the others. Each appears less times.

**2) The supermarket had a special promotion for Thanksgiving. It gave out tickets numbered 1-20 and mixed them all up. Then a ticket was drawn at random. What is the probability that the ticket drawn has a number, which is a multiple of 3 or 5? Give your answer as a fraction, decimal and percent.**

3, 6, 9, 12, 15, 18

5, 10, 20

$\frac{9}{20} = .45 = 45\%$




**3) The diagram above shows the menu for the Gumas family Thanksgiving. Using the diagram, how many possibilities are there for Thanksgiving dinner if you choose one item from each category? What are the two methods you could use to answer this question. Use one of the methods and show your work below. Why did you decide on this method?**

2 methods:

a) Tree Diagram

b) Fundamental Counting Principle:

$5 \times 2 \times 3 \times 4 \times 7 \times 5 =$

$10 \times 12 \times 35$

$120 \times 35 =$ 4200 poss

**4) We play our own version of football on Thanksgiving. Aris, Bobby, Chris, Dad, Eleni, Frankie, Georgia, Harry, Ingrid, Johnny, Louie, and Mom want to play. How many groups of 2 can be made? Show your sample space.**

A
B
C
D
E
F
G
H
I
J
L
M

AB AC AD AE AF AG AH AI AJ AL AM

BC BD BE BF BG BH BI BJ BL BM

CD CE CF CG CH CI CJ CL CM

DE DF DG DH DI DJ DL DM

EF EG EH EI EJ EL EM

FG FH FI FJ FL FM

GH GI GJ GL GM

HI HJ HL HM

IJ IK IL IM

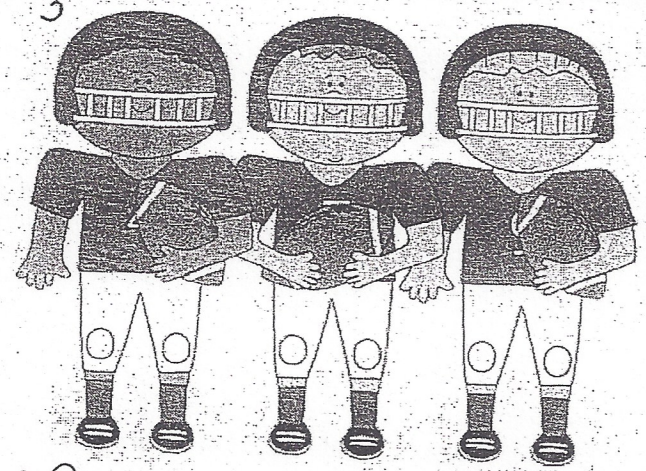
12 11 10 9 8 7 6 5 4

12 + 11 + 10 + 9 + 8 + 7 + 6 + 5 + 4 + 3 + 2

JK LM
JL 2
JM

66 groups

3



CD CG CJ CM

DG DJ DM

GJ GM

JM

10

5) I decide to play Monopoly with my nieces and nephews after dinner. What is the probability of getting a sum of 9 when I roll the dice? Give your answer as a fraction, decimal and percent. What sum am I least likely to get? Explain.

| + | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 3 | 4 | 5 | 6 | 7 | 8 | (9) |
| 4 | 5 | 6 | 7 | 8 | (9) | 10 |
| 5 | 6 | 7 | 8 | (9) | 10 | 11 |
| 6 | 7 | 8 | (9) | 10 | 11 | (12) |

$\frac{4}{36} = \frac{1}{9} = .1\overline{1} = 11.\overline{1}\%$

Least Likely – 12 or 2.

6) I roll the sum of ten 6 times after making 35 rolls. Compare the experimental and theoretical probabilities of getting a sum of 10.

theoretical = $\frac{3}{36} = \frac{1}{12} =$

What should happen. $.083 = 8.3\%$

Experimental = $\frac{6}{35} = .17 = 17\%$

What does happen.

The experimental was higher than the theoretical.

7) I want to wear a special ring that my mom gave me so I go to our safe to get the ring. Oh no! I forgot the combination. I know the last 2 numbers are 7 and 7. What is the chance that I will guess the combination if the lock has an 8 digit code and the numbers (0-9) can repeat?

$\frac{\quad}{10} \quad \frac{\quad}{10} \quad \frac{\quad}{10} \quad \frac{\quad}{10} \quad \frac{\quad}{10} \quad \frac{\quad}{10} \quad \frac{7}{1} \quad \frac{7}{1}$

$10^6 = 1{,}000{,}000$ $\boxed{\frac{1}{1{,}000{,}000}}$