

1. Find the number of subsets of the set {math, English, history, science, art}.
- a) 28
b) 32
c) 24
d) 16
2. Let $A = \{q, s, u, w, y\}$, $B = \{q, s, y, z\}$, and $C = \{v, w, x, y, z\}$. Find $A \cup (B \cap C)$.

- a) $\{q, s, u, wy, z\}$
b) $\{q, r, w, y, z\}$
c) $\{q, w, y\}$
d) $\{q, y, z\}$

3. If $n(A) = 7$, $n(B) = 15$, and $n(A \cap B) = 5$; what is $n(A \cup B)$?

- a) 18
b) 16
c) 22
d) 17

4. A survey of 160 families showed that 59 had a dog; 46 had a cat; 11 had a dog and a parakeet; 7 had a cat and a parakeet; 19 had a dog and a cat; 63 had neither a cat nor a dog, nor a parakeet; 3 had a cat, a dog, and a parakeet. How many had a parakeet?

- a) 16
b) 26
c) 21
d) 15

5. A box contains 13 white cards numbered 1 through 13. One card with a number greater than 6 is chosen and its number is recorded. Write the sample space for this experiment.

- a) $\{11\}$
b) $\{6, 7, 8, 9, 10, 11, 12, 13\}$
c) $\{7, 8, 9, 10, 11, 12, 13\}$
d) $\{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13\}$

6. Martina bought 5 books to bring on vacation. However she decided that her bag was too heavy and that she wouldn't bring all of them. How many possible subsets are there if she brings at least one book but not all 5 books?

- a) 4
b) 31
c) 30
d) 27

7. The table below shows the results of a poll taken in a U.S. city in which people are asked which candidate they intend to vote for in an upcoming presidential election.

	Non Hispanic White (A)	Hispanic (B)	African- American (C)	Asian- American (E)	Ame In (
Democrat (D)	237	112	86	140	
Republican (R)	241	64	32	175	
Other (O)	25	23	12	15	
Totals	503	199	130	330	

Find the number of people in the set $D \cup (B \cap O)$.

- a) 112
b) 614
c) 747
d) 0

8. Two distinguishable dice are rolled. The sum of the dice is a multiple of 11. Write this event in set notation.

- a) $\{(5, 6)\}$
b) \emptyset
c) $\{(1, 1)\}$
d) $\{(5, 6), (6, 5)\}$

9. A bag contains 8 red marbles, 7 blue marbles, and 6 green marbles. What is the probability that a randomly selected marble is blue?

- a) $\frac{1}{3}$
b) $\frac{2}{7}$
c) $\frac{8}{21}$
d) $\frac{7}{15}$

10. The following table shows the grades of college students in an advanced mathematics course, broken down by year. Use the table below to find the probability that a randomly selected sophomore gets a B.

	(A)	(B)	(C)	(E)	(F)	Totals (%)
Freshmen	3	5	6	4	1	19
Sophomores	6	3	8	2	3	22
Juniors	5	7	15	6	2	35
Seniors	5	4	1	2	5	17
Grad Students	3	2	2	0	0	7
Totals	22	21	32	14	11	100

14. Among 170 households surveyed, 59 have a video camera, 45 have a snapshot camera, 31 have binoculars, 9 have a video camera and a snapshot camera, 8 have a snapshot camera and binoculars, and 5 have all three products. What is the probability that a household will have a snapshot camera or binoculars?

- a) $\frac{4}{21}$
- b) $\frac{3}{22}$
- c) $\frac{1}{11}$
- d) $\frac{1}{7}$
11. Find the probability that the sum is at least 11 when two fair dice are rolled.
- a) $\frac{1}{12}$
- b) $\frac{1}{3}$
- c) $\frac{1}{18}$
- d) $\frac{5}{36}$
12. A card is drawn from a well-shuffled deck of 52 cards. What is the probability of obtaining a club or a 6?
- a) $\frac{2}{13}$
- b) $\frac{1}{13}$
- c) $\frac{17}{52}$
- d) $\frac{4}{13}$
13. Find the odds in favor of drawing a red marble when a marble is selected at random from a bag containing 2 yellow, 5 red, and 6 green marbles.
- a) 5 to 13
- b) 5 to 8
- c) 1 to 5
- d) 8 to 13
- a) $\frac{34}{85}$
- b) $\frac{52}{85}$
- c) $\frac{48}{85}$
- d) $\frac{38}{85}$
15. Assuming that boy and girl babies are equally likely, find the probability that a family with four children has all boys given that the first is boy.
- a) $\frac{1}{4}$
- b) 0
- c) $\frac{1}{16}$
- d) $\frac{1}{8}$
16. Assume that two marbles are drawn without replacement from a box with 1 blue, 3 white, 2 green, and 2 red marbles. Find the probability that the first marble is white and the second marble is blue.
- a) $\frac{29}{56}$
- b) $\frac{3}{64}$
- c) $\frac{3}{56}$
- d) $\frac{3}{28}$

FALL 06 MATH 017 EXAM 2

ITEM NO. FORM: A

1	B
2	A
3	D
4	B
5	C
6	C
7	B
8	D
9	A
10	B
11	A
12	D
13	B
14	A
15	D
16	C
17	C
18	C
19	A
20	C