Homework 26, Section 5.1: 2(c,d), 4, 7, 8, 12(b), 14(a,b,c), 15(a,c)

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Homework

2. C)

{aa, ab, ao, bb, bo, oo}

2. D)

{aa, ab, ba, ao, oa, bb, bo, ob, oo}

4. A)

It would be best represented as a set because order is not important.

4. B)

If the same person will not be holding both offices, then it is a permutation from the club members.

4. C)

It could be represented as an unordered list just fine.

4. D)

It is an unordered list taken from the {Red, green, blue} set.

4. E)

I think this one can be represented as either an ordered set or an unordered list. The reason for this is whether or not you can order more than one topping, leading to duplicate items in the list.

4. F)

This is a permutation.

	White pants	Black pants
Red shirt	White, Red	Black, Red
Green shirt	White, Green	Black, Green
Yellow shirt	White, Yellow	Black, Yellow

7. A)

8

7. B)

3

7. C)

7

7. D)

3

8. A)

4

8. B)

There is not one that is more likely. They're all equally likely.

8. C)

2

8. D)

6

8. E)

4

12. A)

There are 6 possibilities.

12. B)

There would be 18 entries in this table $(6 \cdot 3)$.

12. C)

For each section, there are $3 \cdot 3 \cdot 3 \cdot 3 = 81$ possibilities.

Starts with a	Starts with c	Starts with c
aaa	bbb	ooo
aab	bbo	Black, Green
aao	boo	Black, Yellow
abb		
abo		
aoo		

HEAR	RHEA	ARHE	EARH
HERA	RAHE	AHER	EHAR
HAER	HEAH	AEHR	EHRA
HARE	RHAE	ARHE	EAHR
HREA	REHA	AERH	ERHA
HRAE	RHEA	AREH	ERAH

12. D)

12. E)

12. F)

There are $24 \cdot 5 = 120$ variations.

14. A)

14. B)

If we add another branch then there are 16 options.

14. C)

There are 6.

15. A)

$(7 \cdot 1), (7 \cdot 2), (7 \cdot 3), (7 \cdot 4), \ \ldots, (7 \cdot 14285)$

15. C)

There are 316 entries on the list.