

Math for Liberal Arts
Test Review Sheets: Answers

Note that these are answers only, not full solutions. If you consult these answers before working the practice problems, then you will probably get *worse* grades on your tests.

Test 1.

3. B.
4. C.
5. Yes: C.
6. ABCD.
7. CBAD.
8. D.
9. 150.
10. 9.
11. 20.
12. 28.
13. B.
14. 20.
15. P_1 .
16. $P_1 : \frac{2}{3}; P_2 : \frac{1}{6}; P_3 : \frac{1}{6}$.
17. 21.
18. C.
19. P_1 .
20. $P_1 : 70\%$;
 $P_2 : 10\%$;
 $P_3 : 10\%$;
 $P_4 : 10\%$.
21. the coalition $\{A, B\}$, and all coalitions that are missing A or B .
22. A and B .

Test 2.

3. $C1 \leftarrow s_1$
 $C2 \leftarrow s_3$
 $D \leftarrow s_2$
4. $C1 \leftarrow s_2$
 $C2 \leftarrow s_3$
 $D \leftarrow s_1$
 But there are other answers, too.
5. D takes s_1 (or s_3 , if you like). The remaining pieces are recombined, and the remaining players redivide them using the divider-chooser method.
6. \$77,000.
7. \$19,000.
8. It's left over.
9. P_2 .
10. P_4 .
11. Anne.
12. Betty.
13. Doris.
14. 40,000.
15. Second answer.
16. Fourth answer.
17. Third answer.
18. First answer.

19. Fourth answer.

20. First answer.

21. Second answer.

22. Second answer (again).

Test 3.

1. D and C .
2. 5.
3. $DA, DCA, DECA$.
4. $DACD, DECD$, etc.
5. BD .
8. 5 vertices, 9 edges.
9. at C .
10. \$10.
11. Graph 3.
12. Graph 1.
13. 55.
14. $10!$.
15. $ADCBA$
16. $ACDBA$
17. $ACDBA$
18. $ACBDA$ (!)
19. C .

21. Louisville
→ Columbus
→ Chicago
→ Buffalo
→ Boston
→ Louisville

22. Louisville
→ Columbus
→ Buffalo
→ Boston
→ Chicago
→ Louisville

23. Inefficient, but optimal.

24. Efficient, but not optimal.

Test 4 (first half).

1. 14.
2. 82.
3. \$4800; \$88000.
4. $2 + 4N$; $P_{N-1} + 4$.
5. 15350.
6. 113552.
7. 5012.
8. $\frac{1}{2}\%$.
9. 6.17%.
10. \$809.56
11. \$1495.60
12. 10% (= 50/500).

Test 4 (symmetry).

This review sheet has no direct questions.

Test 5.

1. simple random sampling.
2. the 1000 marbles in the jar.
3. 1000.
4. the 150 marbles drawn by the student.
5. 15%.
6. 220.
7. the students who were given the fake vaccine.
8. D.
9. the treatment group and the control group represent very different segments of the population.
10. the student's background in mathematics.
11. 1500.
12. 200.
13. C.
14. 26.
15. 26.5.
16. 28.
17. 7.
18. 4.

19. 1.

20. $-.5$.

21. $\sqrt{18.5}$.

22. B.

23. A.

24. A.

25. the average of the numbers in the 126th and 127th positions; the average of the 63rd and 64th numbers from the left; the average of the 63rd and 64th numbers from the right.

26. the number in the 127th position; the average of the 63rd and 64th numbers from the left; the average of the 63rd and 64th numbers from the right.

27. the average of the numbers in the 127th and 128th positions; the 64th number from the left; the 64th number from the right.

28. Min = \$40,000
 Q_1 = \$45,000
 M = \$55,000
 Q_3 = \$65,000
 Max = \$80,000

29. \$20,000.