

pg. 522 #1-45

1. independent. Months & numbers do not affect each other

5. $\frac{1}{24} \cdot \frac{2}{3} = \frac{1}{6}$

10. possible prime number sums: 2, 3, 5, 7, 11

possible sums < 4: 2, 3

not mutually exclusive

14. $P(A \text{ or } B) = P(A) + P(B)$

$$= \frac{5}{8} + \frac{1}{8} = \frac{6}{8} = \frac{3}{4}$$

18. $P(3 \text{ or odd})$ not mutually exclusive

$$P(3) + P(\text{odd}) - P(3 \text{ and odd})$$

$$\frac{1}{6} + \frac{1}{2} - \left(\frac{1}{6}\right) = \frac{1}{2}$$

26. $P(C) \quad P(D) \quad P(C \text{ and } D) = P(C \text{ or } D)$

$$\frac{4}{9} + \frac{4}{9} - x = \frac{5}{9}$$

$$\frac{8}{9} - x = \frac{5}{9}$$

$$x = \frac{3}{9} = \frac{1}{3}$$

30. a) There are 20 multiples of 5 $\frac{20}{100} = 20\%$

There are 25 multiples of 4 $\frac{25}{100} = 25\%$

not mutually exclusive \rightarrow There are 5 multiples of both (20, 40, 60, 80, 100) = 5%

$$20\% + 25\% - 5\% = 40\%$$

31. read pie chart 13%

$$36. \frac{24}{36} \cdot \frac{2}{5} = \frac{4}{15}$$

$$41. \begin{array}{ccccccc} P(H) & P(J) & P(H \text{ and } J) & P(H \text{ or } J) \\ \frac{7}{11} & + & \frac{3}{11} & - & X & = & \frac{9}{11} \\ & & & & X = \frac{1}{11} & & \end{array}$$

45a) $\frac{1 \text{ right}}{4 \text{ choices}} = \frac{1}{4}$

b) $\frac{1}{4} \cdot \frac{1}{4} \cdot \frac{1}{4} = \frac{1}{64}$

Answers for Lesson 9-7, pp. 522–525 Exercises

1. independent 2. dependent 3. dependent
4. independent 5. $\frac{1}{6}$ 6. $\frac{9}{34}$
7. 0.54 8. $\frac{2}{x}$ 9. $\frac{9}{25}$
10. Not mutually exclusive since 2 is a prime number and less than 4.
11. Mutually exclusive since if the numbers are equal, then the sum is even.
12. Not mutually exclusive since $6 \cdot 4 = 24$, which is greater than 20 and a multiple of 3.
13. 47% 14. $\frac{3}{4}$ 15. $\frac{14}{15}$
16. 39% 17. $\frac{26}{35}$ 18. $\frac{1}{2}$
19. $\frac{1}{2}$ 20. $\frac{5}{6}$ 21. $\frac{5}{6}$
22. $\frac{2}{3}$ 23. $\frac{5}{6}$ 24. $\frac{5}{6}$
25. 1 26. $\frac{1}{3}$ 27. $\frac{7}{12}$
28. $\frac{2}{5}$ 29. $\frac{31}{56}$
30. a. $\frac{1}{5}; \frac{1}{4}$; no; 20 is a multiple of both 4 and 5.
 b. $\frac{1}{20}$
31. 13% 32. 42% 33. 98% 34. 75%
35. 58% 36. $\frac{4}{15}$ 37. $\frac{4}{15}$ 38. $\frac{8}{15}$
39. $\frac{1}{15}$ 40. $\frac{7}{15}$ 41. $\frac{1}{11}$ 42. $\frac{5}{12}$
43. $\frac{7}{15}$ 44. $\frac{5}{2x}$ 45 a. $\frac{1}{4}$ b. $\frac{1}{64}$

46