

Pre-Public June 2014

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|-------|-------|-------|-------|-------|
| 1. C | 11. C | 21. C | 31. A | 41. D |
| 2. A | 12. A | 22. B | 32. C | 42. D |
| 3. A | 13. B | 23. A | 33. C | 43. A |
| 4. C | 14. B | 24. D | 34. C | 44. C |
| 5. D | 15. C | 25. D | 35. B | 45. A |
| 6. D | 16. D | 26. B | 36. B | 46. A |
| 7. A | 17. C | 27. B | 37. B | 47. C |
| 8. B | 18. D | 28. A | 38. C | 48. B |
| 9. B | 19. C | 29. C | 39. D | 49. C |
| 10. A | 20. B | 30. B | 40. D | 50. B |

$$51. x = 4$$

Ball Hockey only $\Rightarrow 5$

$$52a) 15600000$$

$$b) \frac{11!}{4! \cdot 4! \cdot 2!} = 34650$$

$$c) {}_4C_3 \cdot {}_7C_3 = 140 \text{ ways}$$

$$53a) \boxed{00} \text{ ---}$$

$2!$
 $\underbrace{\hspace{2em}}_{4!}$

$$\frac{2! \cdot 4!}{5!} = 40\%$$

$$53b) \quad \frac{\text{Set/on time}}{(0.85)(0.60)} + \frac{\text{on time/no alarm}}{(0.40)(0.40)} = 0.67$$

$$54a) \quad \frac{3(3-x)}{x}, \quad x \neq 0, -3$$

$$b) \quad \text{Devon} = 4 \text{ hrs}$$

$$55a) \quad y = 3.214x^2 + 12.243x + 12.829$$

$$40 = \dots \dots \dots$$

Solve by quadratic formula

$$x = 1.56 \text{ sec}$$

$$55b) \quad y\text{-int} : (0, 56)$$

EB : QII \rightarrow QIV

max int : 3

ii) Both ends extend, one up & one down

$$56a) \quad x = -\frac{1}{4}$$

$$56 \text{ b i) } y = 2000\left(\frac{1}{2}\right)^x$$

$$\text{ii } 31.25 = 2000\left(\frac{1}{2}\right)^x$$

$$x = 6$$

$$57 \text{ a) } 2^{x-1} = 3^{x+2}$$

log both sides

$$x \approx -7.1$$

b) 645 months or 53.7 years

$$58 \text{ a) i) } y = 3\sin 2(x+90^\circ) + 6$$

$$\text{ii) } \{y \mid 3 \leq y \leq 9, y \in \mathbb{R}\}$$

$$59. \quad y = 5000(1.005)^{48}$$

$$= 6532.45$$

$$\therefore \text{interest} = \$1352.45$$