






# Answers to Handbook Problems


|  Algebraic Expressions + Equations |
|---|
| 25. 9   |
| 33. 1100  |
| 49. 7   |
| 53. 38  |
| 56. 380   |
| 58. -3  |
| 64. 6   |
| 79. -5  |
| 80. 17  |
| 87. 2.45  |
| 88. 750   |
| 89. 4   |
| 92. 776   |
| 102. 2  |
| 111. 6  |
| 123. 10/3   |
| 141. 5  |
| 144. 15   |
| 158. 2031   |
| 170. 2  |
| 172. 24   |
| 188. $4\sqrt{29}$   |
| 196. 25   |
| 201. 279  |
| 204. $15/2$   |


|  Coordinate Geometry |
|---|
| 12. 5   |
| 20. $2\sqrt{17}$  |
| 113. $37\pi$  |
| 179. $9/5$  |
| 210. $48/5$   |
| 219.  |
| $\frac{\sqrt{2} + 40}{3}$   |
| or $\frac{40 + \sqrt{2}}{3}$  |


|  General Math |
|--|
| 1. 77  |
| 4. 1   |
| 8. $1.7 \times 10^5$   |
| 10. 170 or 170.00  |
| 14. 5  |
| 24. 621  |
| 43. 1.65   |
| 44. 41   |
| 54. 12   |
| 61. 216  |
| 70. -3   |

|  Logic |
|---|
| 3. 11   |
| 22. 3   |
| 37. Q   |
| 63. 11  |
| 98. 870   |
| 130. 90   |
| 167. 6  |
| 199. 4  |

|  Measurement |
|--|
| 11. 16   |
| 15. $3.16 \times 10^{-14}$   |
| 29. 6  |
| 35. 14.6   |
| 45. 120  |
| 50. 21.3   |
| 69. 160  |
| 75. 867  |
| 83.  |
| $\frac{19\sqrt{2}}{2}$   |
| 86. 29   |
| 119. $72\pi$   |
| 125. 9.4   |
| 146. 32  |
| 173. 1.7   |

|  Number Theory |
|---|
| 30. 1   |
| 32. 721   |
| 42. 90  |
| 46. 4   |
| 52. 86  |
| 72. 17  |
| 78. 7   |
| 81. -4  |
| 85. 2018  |
| 100. 922  |
| 106. 48   |
| 107. 3  |
| 117. 9  |
| 120. 12022  |
| 135. 272  |
| 138. 24   |
| 139. 346  |
| 149. 3  |
| 153. 14   |
| 156. $18/55$  |
| 159. 31   |
| 166. 8008   |
| 174. 27   |
| 185. 806  |
| 206. 6777   |
| 215. 12   |
| 218. 47   |
| 241. 22   |
| 242. 20   |
| 243. 18   |
| 244. 26   |
| 245. 30   |

|  Number Theory (continued) |
|---|
| 246. 33   |
| 247. 2A7B   |
| 248. 2355   |
| 249. 7  |
| 250. 19   |

|  Percents + Fractions |
|---|
| 5. $1/6$  |
| 36. 7   |
| 60. 8   |
| 65. 275,000 or 275,000.00   |
| 101. 0  |
| 137. 20   |
| 177. 60   |
| 192. $391/330$  |
| 221. $1/4$  |
| 222. $3/2$  |
| 223. $6/11$   |
| 224. $3/10$   |
| 225. $3/8$  |
| 226. $11/16$  |
| 227. $7/3$  |
| 228. $34/45$  |
| 229. 2  |
| 230. -12  |



**Plane  
Geometry**

6. 30

38. 16

48. 36

77.  $2\pi$

96. 36

109.  $14\sqrt{3}$

115. 18

124. 3

129. 1.14

132. 8

143. 40

148. 28

154. 30

157. 40

163. 27

169. 9

171. 40.5

180. 2.6

181.  $16/5$

189.  $6\sqrt{13}$

193.  $\sqrt{3}$

197. 18

217.  $21/8$

231. 40

232. 65

233. 40

234. 230

235. 62.5

236. 100

237. 130

238. 77.5

239. 80

240. 90



**Probability,  
Counting +  
Combinatorics**

7.  $9/16$

16. 720

18.  $7/12$

27.  $18/25$

28. 8

34. 12

47.  $1/4$

55.  $1/64$

57.  $15/64$

59.  $2/5$

66. 4851

68. 720

76. 34

91. 60

97. 4094

110. 678

112.  $1/32$

116.  $1/39$

126. 45

127.  $1/8$

133.  $3/65$

145. 981

147. 132

150. 512

155. 1760

160. 32

161.  $7/64$

162. 18

165. 30

175. 0.94

176.  $3/20$

183.  $5/18$

187.  $1/210$

194. 4200

195.  $1/35$



**Probability,  
Counting +  
Combinatorics  
(continued)**

202. 121

203. 7

205.  $5/3$

207.  $1/9$

211. 28

212.  $7/15$

214.  $124/133$

220. 169



**Problem  
Solving (Misc.)**

9. 0

19. 12

39. 6

62. 38

152. 78230

182. 6

191. 225

208. 6

216. 5



**Proportional  
Reasoning**

2.  $3\frac{1}{5}$

17. 36

23. 8

26.  $25/81$

31. 1.30

40. 36

41. 1

67. 30

71. 24 or 24.00

93. 10.5

104. 8.10

105.  $1/16$

108. 500

122. 7.2

140.  $3/7$

142.  $3/2$

178. 1.11

190. 10

209. 7

213. 16



**Sequences,  
Series +  
Patterns**

13. 12

73. 175

74. 33

84. 8

94. 3

114. 9

131. 42

164. 62

200. 3



**Solid  
Geometry**

90.  $192\pi$

99. 100

103. 74

128. 0.5

134. 22 or 22.00

136. 61,900

151. 38

168. 9.2

184. 73

198. 10



**Statistics +  
Data**

21. 22

51. 88

82. 18

95. 35

118. 42

121. 29

186. 2