

## WEEK ONE ANSWERS:

1. A. The student misinterprets the concept of “less than” and reverses the quantities to be subtracted.  
B. Correct answer  
C. The student misinterprets the relationship between Annie’s and Bernie’s hamsters and adds 7 instead of subtracting.  
D. The student thinks that “less than” means division instead of subtraction.

2. F. The student finds the sum of 7,  $5\frac{3}{4}$ , 3, and  $6\frac{1}{2}$ .  
G. For each type of chain, the student multiplies the number of bracelets by only the whole number part of each mixed number representing the length.  
H. Correct answer  
I. The student multiplies the total number of bracelets by the sum of the lengths of the two types of bracelet.

3. Correct answer: 350

Common errors: The student makes a place value error, getting an answer of 3500, 35, 3.5, 0.35, or 0.035.

4. A. The student uses the digits of the decimal number as the numerator and denominator of the fraction.  
B. The student chooses a mixed number that is close to 3.35 but is not equivalent.  
C. Correct answer  
D. The student chooses a mixed number that is equivalent to 3.35 but is not in lowest terms.

5. F. The student does not recognize that  $\frac{8}{10}$  and  $\frac{80}{100}$  are equivalent fractions, and the student thinks that  $\frac{8}{10}$  is equivalent to 8%.

G. Correct answer

- H. The student does not recognize that  $\frac{8}{10}$  is equivalent to 0.8, and the student thinks that  $\frac{8}{10}$  is equivalent to 8%.

- I. The student does not recognize that  $\frac{8}{10}$  is equivalent to 80%, and the student thinks that  $\frac{8}{10}$  is equivalent to 8%.

6. A. The student does not know how to proceed when the variable term is on the right-hand side of the equation and subtracts 60 instead from both sides instead of adding 34 to both sides.
- B. Correct answer
- C. The student does not correctly apply the properties of equations in an attempt to move 34 to the left-hand side.
- D. The student does not correctly apply the properties of equations in an attempt to move the variable term to the left-hand side.
7. F. Correct answer
- G. The student chooses the customer who bought the least amount.
- H. The student chooses the customer who spent the least amount of money.
- I. The student chooses the customer who bought the greatest amount.
8. A. Correct answer
- B. The student uses the incorrect inequality symbol.
- C. The student realizes that Simone can only spend \$39 on baseballs that cost \$3 each, but the student chooses an inequality that excludes the maximum number of baseballs Simone can purchase.
- D. The student realizes that Simone can only spend \$39 on baseballs that cost \$3 each, but the student uses  $>$  instead of  $<$ .
9. F. The student subtracts 6 from both sides rather than dividing both sides by 6. The student also does not reverse the inequality symbol when moving the variable from one side of the inequality to the other.
- G. The student subtracts 6 from both sides rather than dividing both sides by 6.
- H. The student does not reverse the inequality symbol when moving the variable from one side of the inequality to the other.
- I. Correct answer
10. A. The student confuses perimeter with area. The areas of the two figures are equal.
- B. Figure Y is twice as high as Figure Z, so the student thinks that the perimeter of the Figure Y is twice the perimeter of Figure Z.
- C. The student determines that the perimeter of Figure Y contains 2 fewer line segments than Figure Z but does not take into account that each line segment measures 5 centimeters.
- D. Correct answer

11. F. The student uses an incorrect type of circle.  
G. The student uses an incorrect type of circle and shades in the wrong direction.  
H. Correct answer  
I. The student shades in the wrong direction.
12. In **Part A**, the student successfully uses the distributive property to rewrite the expression as  $47 \times 100$ , getting a result of 4700.

In **Part B**, the student successfully uses the commutative and associative properties of addition to rewrite the expression as  $(752 + 248) + 467$ , getting a result of 1467.

13. A. Correct answer  
B. The student finds the difference of 31 and 22.  
C. The student finds an input halfway between 5 and 17.  
D. The student finds the difference of 31 and 22 and adds this number to 5.
14. F. The student uses the numbers from the ordered pair (4, 3).  
G. The student uses the inverse of the relationship between  $y$  and  $x$ , choosing  $2x$  instead of  $\frac{1}{2}x$ .  
H. Correct answer  
I. The student subtracts 1 from  $\frac{1}{2}x$  instead of adding.

15. **Part A Mean:** Add data (3074). Divide by number of machines(6).

When the seventh machine is added the mean will increase.

$$\text{Add: } 3074 + 1000 = 4074.$$

$$\text{Divide by the new number of machines (7). } 4074 / 7 = \underline{\$582}.$$

**Part B Mode:** The mode (most frequently occurring score) will not change.

It is still \$450.

**Part C Range:** The range (highest price minus lowest price) increases.

$$1000 - 400 = \underline{600}.$$

**Part D Median:** The median (middle number of the ordered set) increases.

400, 450, 450, 500, 599, 675, 1000

16.  $11 + h$

17.  $k \cdot 12$

18.  $(21 + 9) + 8$

19.  $(12 \cdot 5) \cdot 4$

20. 1, 18

21. 0, 26

22.  $8a + 48$

23.  $7p - 35$

24.  $90 + 9x$

25.  $12 + 6a + 54 = 6a + 66$

### Week Two Answers:

26.  $4x - 12$ ; Distributive Property
27.  $21x$ ; Commutative Property of Multiplication and Associative Property of Multiplication
28. 12 square units
29.  $P = 4a + 2x$ ; \$14
30.  $\frac{14}{15}$
31. 9.4
32.  $7\frac{23}{36}$
33. 0.42
34.  $2\frac{2}{5}$
35. 6
36. 1.2
37. 29.52
38. about 1
39. About  $\frac{1}{2}$
40.  $4 \times 10 = 40$
41.  $68 \div 2 = 34$
43. about 12 in.<sup>2</sup>; underestimate
44.  $\frac{3}{5}$
45.  $3\frac{9}{25}$
46.  $\frac{13}{40}$
47. 0.6
48. 0.375
49. 1.24
50. 2 c of flour,  $\frac{2}{3}$  c of sugar,  $1\frac{1}{3}$  c of chocolate chips

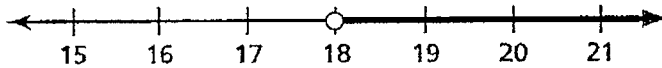
### Week Three Answers:

51. 42
52. 4
53. 25
54. the eighteen-pack (\$0.30 per juice box compared to \$0.35 per juice box in the twelve-pack)
55. 37.5%
56. 76%
57. 120%
58. 325%
59. 25%
60. 126%
61. 166.6%
62. 3.2%
63. Chris, Mary Beth, and Allison are all in agreement:  
 $14.6\% = \frac{292}{2000} = 0.146.$
64.  $\frac{5}{12}$ , 42%, 0.425
65. \$17.50
66.  $\frac{2}{3}$
67. about 4 hours, 20 minutes
68. mean: 7; median: 6; mode: 6; range: 9
69. No; you also need to know how many she has shot so far. There is not enough information to answer the question.

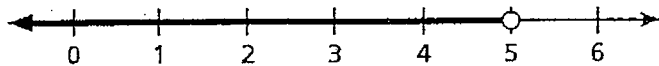
70.  $52.66 \text{ m}^2$       71.  $768 \text{ sq. ft}$       72.  $273 \text{ sq. mm.}$       73.  $322 \text{ sq. cm.}$   
 74.  $294.5 \text{ sq. cm}$       75.  $8x - 25$

**WEEK FOUR ANSWERS:**

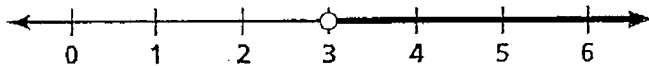
76.  $150 \text{ ft}^2$   
 77. 6 by 20, 4 by 30, 8 by 15, 5 by 24, 3 by 40, 2 by 60, 1 by 120  
 78.  $s = \frac{1}{4}$   
 79.  $c = 3$       80.  $(4 \cdot 6)w = 96; 4 \text{ cm}$   
 81.  $t < 7$       82.  $m \geq -3$       83.  $2n + 6$       84.  $3m - 7$   
 85.  $25 - w$       86.  $2 \times 6$   
 87.  $b > 18$



88.  $a < 5$

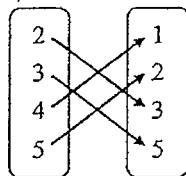


89.  $t > 3$

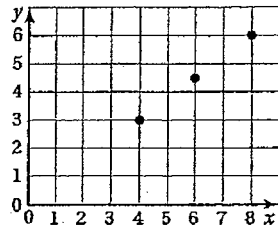


90.  $50 < 15 + 0.10x$ ; if you use more than 350 minutes on the first plan

91. Input      Output



92. a.



b.  $y = \frac{3}{4}x$

c. \$9

93.  $4x + 12$ ; Distributive Property

94.  $14x$ ; Commutative Property of Multiplication and Associative Property of Multiplication

95. 27 square units    96.  $P = 3.50a + 2c$ ; \$13    97.  $\frac{2}{7}$     98. 7.44

99.  $14\frac{7}{8}$

100. 1.44

**WEEK FIVE ANSWERS:**

101.  $1\frac{2}{7}$     102.  $36\frac{4}{5}$     103. 2.4    104. 4.6

105. \$0.35    106. \$32.10    107. 3.245 in.

108. About 30 sq. in; overestimate    109.  $\frac{3}{10}$     110.  $4\frac{17}{25}$

111.  $\frac{213}{250}$     112. 0.8    113. 0.1875    114. 2.25

115.  $2\frac{1}{3}$  c of flour,  $\frac{2}{3}$  c of sugar,  $1\frac{5}{6}$  c of chocolate chips

116. 36    117. 3    118. 5

119. The 18-pk (\$0.305 per juice box compared to \$0.325 per juice box in the 12-pk)

120. 62.5%    121. 4%    122. 420%    123. 133.3%

124. .7%

125. Chris, Mary Beth, and Allison are all in agreement:  $14.6\% = \frac{292}{2000} = 0.146$

**WEEK SIX ANSWERS:**

126.  $\frac{7}{6}$ , 1.17, 120%    127. \$17.85    128.  $\frac{4}{3}$     129. 5 hours, 12 minutes

130. mean: 9.9; median: 9.5; mode: 9; range: 4

131. No, you also need to how many she has shot so far. There is not enough information to answer the question.

132. 38.81 sq. m

133. 1456 sq. ft.

134.  $s = 16$

135.  $c = 8$

136. Solution

137. Not a solution

138. Not a solution

139. Solution

140. a.  $d = 6h$     b.  $d = 12$  miles

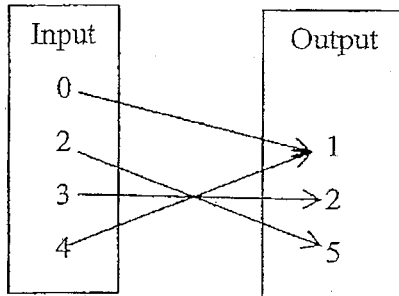
141.  $(5 \times 6)w = 80$ ;  $2\frac{2}{3}$  cm

142.  $w < 5.5$

143.  $m \geq 7$

144.  $42.50 < 12.50 + 0.15x$ ; if you use more than 200 minutes on the first plan

145.



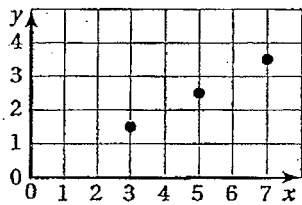
146.  $y = x + 10$

147.  $y = 3x$

148.  $y = x - 8$

149.  $y = 2x$

150. a.



b.  $y = 0.5x$

c. \$6

**WEEK SEVEN ANSWERS:**

151. (4, 0)

152. (2, 2)

153. (0, 1)

154. (-1, 4)

155. (-3, 2)

156. (-2, 0)

157. (-4, -4)

158. (-3, -2)

159. (0, -4)

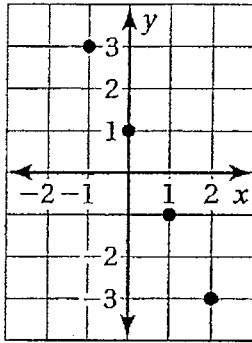
160. (1, -3)

161. (2, -2)

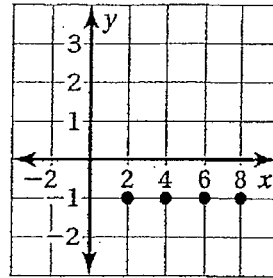
162. (3, -4)



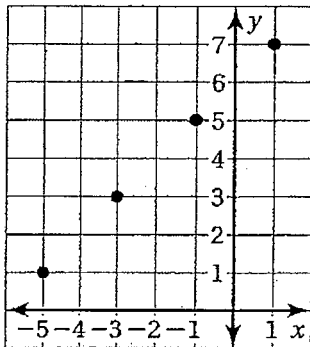
163. The points lie on a line.



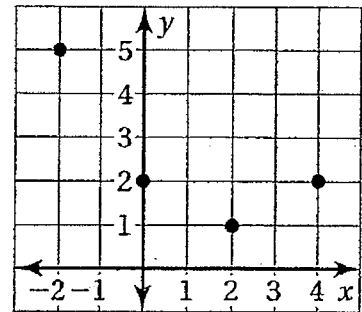
164. The points lie on a line.



165. The points lie on a line.



166. The points do not lie on a line.



167. 0

168. -8

169. 1

170. 3

171. -1

172. 4

173. 75 cm

174. 1 ft

175. The volume is multiplied by 8.

**WEEK EIGHT ANSWERS:**

176. 34 yd

177. 24 in.

178. 60 mm

179. 48 in.<sup>2</sup>

180. about 178.5 mm<sup>2</sup>

181. 402 ft<sup>2</sup>

182. 60 ft

183. 75

184. 168 m

185. 1008 ft

186. \$7.50

187. 60

188. 4

189. 10

190. 180

191. 150 fish

192. 45 pounds

193. <

194. =

195. a. 16 weeks

b. 4 weeks; *Sample answer:* Divide the difference in prices by \$15.50.