Chapter 12 BLM Answers

BLM 12–2 Working With Data

1. The three remaining digits must add to 6 if all four digits add to 12. Assume that any 4-digit number cannot begin with 0. Total is 12 numbers.

Possible Digits	Possible Numbers
6, 0, 0	6060
5, 1, 0	5160 and 1560
4, 1, 1	1164
4, 2, 0	4260, 2460, 4062, 2064
3, 2, 1	3162 or 1362
3, 3, 0	3360
2, 2, 2	2262

2. It is less than 349 since you are multiplying by a number slightly less than 1.
3. The answer is greater than 3 since you are dividing by a number slightly less than 16.
4. a) No. Answers may vary. For example: Although $2 \times 8 = 16$, 2×248 is a 3-digit number not a 4-digit number as shown in the question.
b) D = 1. What number multiplied by 248 gives 248? It is 1.
c) E must equal 7, since when you multiply it by 8, the product must end in 6 as shown in the question. $7 \times 248 = 1736$ so G must also equal 7.
5. Answers may vary. For example:
$20 = 2 + 3 + 4 + 5 + 6$
$21 = 1 + 2 + 3 + 4 + 5 + 6$ or $6 + 7 + 8$ or $10 + 11$
$22 = 4 + 5 + 6 + 7$
$23 = 11 + 12$
$24 = 7 + 8 + 9$
$25 = 3 + 4 + 5 + 6 + 7$ or $12 + 13$
6. 1, 6, 8, 10, 13
1, 4, 8, 12, 13
3, 6, 8, 10, 11
7. a) Column 3: 13, 9, 8, 5, 2 **b)** 37
c) Rap, 13 **d)** Western, 2
e) $13 - 8 = 5$ **f)** $9 - 5 = 4$

BLM 12–3 Section 12.1 Extra Practice

1. mode; median
2. a) 5, 8, 8, 8, 9, 10, 12, 12, 13
b) mode = 8; median = 9
3. a) 7, 7, 9, 9, 11, 12, 14, 24, 28, 30, 31, 33
b) mode = 7, 9; median = 13
4. a) 5, 6, 8, 10, 11, 14
b) mode = none; median = 9
5. a) 80, 83, 85, 87, 87, 92, 92
b) 87, 92 **c)** 87
6. No, because most of the numbers are greater than 7 and 9.
7. a) 5, 5 **b)** 20, 10, 4

BLM 12–5 Section 12.2 Extra Practice

1. c) Students should draw four towers of four blocks each. **d)** 4
2. a) $42 \div 6 = 7$ **b)** add; number
3. a) $56 \div 7 = 8$ **b)** $132 \div 11 = 12$
c) $161 \div 7 = 23$ **d)** $15\,132 \div 6 = 2522$
e) $230\,000 \div 4 = 57\,500$
f) $220 \div 11 = 20$ **g)** $451 \div 11 = 41$

BLM 12–7 Section 12.3 Extra Practice

1. a) range; smallest; largest
b) outliers; different
2. a) $35 - 7 = 28$; 35 **b)** $112 - 55 = 57$; 55
c) $49 - 35 = 14$; none **d)** $42 - 9 = 33$; 42
e) $26 - (-8) = 34$; 26
3. a) Ordered: 3, 5, 5, 10, 11, 14
Range = $14 - 3 = 11$
Median = 7.5 Mode = 5
Mean = $(3 + 5 + 5 + 10 + 11 + 14)$
$= 48 \div 6 = 8$
b) Ordered: –8, 0, 6, 7, 15, 20, 30
Range = $30 - (-8) = 30 + 8 = 38$
Median = 7 Mode = none
Mean = $(-8 + 0 + 6 + 7 + 15 + 20 + 30)$
$= 70 \div 7 = 10$

BLM 12–9 Section 12.4 Extra Practice

1. Ordered: 11, 26, 29, 32, 32, 34, 39
a) Range = $39 - 11 = 28$ Median = 32
b) Outliers = 11
c) Mean with outlier = $11 + 26 + 29 + 32 + 32 + 34 + 39 = 203 \div 7 = 29$
Mean without outlier = $26 + 29 + 32 + 32 + 34 + 39 = 192 \div 6 = 32$
2. Ordered: 11, 11, 12, 12, 13, 14, 18, 30, 32
a) Range = $32 - 11 = 21$ Median = 13
b) Outliers = 30, 32
c) Mean with outliers = $11 + 11 + 12 + 12 + 13 + 14 + 18 + 30 + 32 = 153 \div 9 = 17$
Mean without outliers = $11 + 11 + 12 + 12 + 13 + 14 + 18 = 91 \div 7 = 13$

3. 110°
No. Water becomes a gas at 100°C.
The measurement must be incorrect.
4. 140
Yes. 140 cm is not an unreasonable height for a student in grade 7.

BLM 12–11 Section 12.5 Extra Practice

1. a) mean, because the teacher is calculating a grade
b) mode, because all that matters is the most frequent choice
c) mean with the outlier deleted, because the outlier is much higher than the other values and is probably the salary of the president of the company
2. a) median: 3.5; mean: 3 + 3.5 + 3.5 + 5 + 10 = 25 ÷ 5 = 25
c) median: $50 000; mean: 23 000 + 35 000 + 42 000 + 45 000 + 55 000 + 56 000 + 58 000 + 166 000 = 480 000 ÷ 8 = $60 000

BLM 12–13 Chapter 12 Test

1. F **2.** D **3.** E **4.** A **5.** G
6. D **7.** A **8.** A **9.** C **10.** D
11. mode: 12; mean: 9
12. median: 15; range: 4
13. a) mean: 1.6; median: 1; mode: 1; range: 7
b) outlier: 7. It should not be removed from the data, because it is a true statement.
14. a) mean: 75; mode: 87; median: 78.5
b) He would tell his mother the mean, since it is the lowest of the three values and his mark is above the mean.