Bits and Pieces III Practice Answers

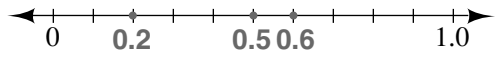
Investigation 1 Additional Practice

1. **a.** \$24; $4 \times \$3 + \$1 + 2 \times \$5 + 2 \times \$0.50 = \$12 + \$1 + \$10 + \$1 = \$24$
   b. It would be better to overestimate to make sure they have enough money.
2. **a.** $2.87 + 3.5$; If you use benchmarks to estimate, $3 + 3.5$ is greater than $1.5 + 3$.
   b. They are the same; Even though the actual numbers are different, in each place value the same digits are being added.
   c. $12.951 + 4.6$; Students probably have to compute the two sums to decide which is greater.
3. **a.** $8.5 - 3.2$; If you use benchmarks to estimate, $8.5 - 3$ is a greater difference than $7 - 5$.
   b. They are the same.
   c. $0.57 - 0.008$; Students probably have to compute the two differences.
4. **a.** 35.7; The whole number parts are the same and 0.7 is the greatest decimal part.
   b. 690.8; This has the greatest whole number part. Since it has the greatest whole number, the size of the decimal part is irrelevant.
   c. 75.6500; The whole number parts in each number are the same. The decimal 0.6500 (which is 0.65) in 75.6500 is the greatest because it has a 6 in the tenths place. The number 75.0605 does not have any tenths. The number 75.6050 has a 6 in the tenths place but it does not have any hundredths and 75.6500 has 5 hundredths.
5. (Figure 1)
6. **a.** in order: 0.17 seconds, 1.54, 0.51, 0.34, 0.53
   b. 4.6 seconds
   c. 7.69 seconds
   d. Possible comparison: In each trial, MC's reaction time is slower than LG's.
7. **a.** $N = 6.39$ **b.** $N = 13.879$
   c. $N = 7.56$ **d.** $N = 3.36$
   e. $N = 8.85$ **f.** $N = 7.4$

Skill: Adding and Subtracting Decimals

1. 6.4	**2.** 5.5	**3.** 2.428	**4.** 1.024
5. 5.414	**6.** 8.29	**7.** 9.238	**8.** 2.8
9. 5.4	**10.** 3.34	**11.** 42.35	**12.** 24.276
13. 3.097	**14.** 6.777	**15.** 2.174	**16.** 7.8236
17. 18.932	**18.** 15.62		

19.



20.

21. 1; it includes all workers who are paid on an hourly basis.
22. $0.29 + 0.24 = 0.53$
23. 16–19, 20–24, and 65 & over; or 20–24, 55–64, and 65 & over

Investigation 2 Additional Practice

1. Possible answer: Use 40 miles per gallon as an estimate of the gas mileage and 800 miles as an estimate for the trip distance. Then they will need $\frac{800}{40}$ or about 20 gallons of gas.
2. **a.** 23.85 **b.** 29.15
   c. **i.** \$59,028.75 **ii.** \$72,146.25
   d. \$1770.86 ($2.65 \times 20 \times 2475 = 131175$, $131{,}175 \times 13.5 = 1770.86$)

Figure 1

Problem	Answer without the Decimal Point	Correct Answer
$5.7 + 6.09 + 4.2$	1599	**15.99**
$3.007 - 2.9 + 35.054$	35191	**35.161**
$14.5 - 8.07 - 6.2$	23	**0.23**

3. **a.** 49.2 **b.** 4.92 **c.** 0.492
d. 4.92 **e.** 49.2 **f.** 492.
4. **a.** 31.563 **b.** 3.1563 **c.** 315.63
d. 3.1563 **e.** 315.63 **f.** 0.31563
5. **a.** Possible estimate: 2; Using benchmarks, $2 \times 1 = 2$. One number was rounded up and the other was rounded down.
b. Possible estimate: 5.21; $5.21 \times 1 = 5.21$
c. Possible estimate: 10; $1\frac{1}{4} \times 8 = 10$
d. Possible estimate: 6; $12 \times \frac{1}{2} = 6$
e. Possible estimate: about 112.5; $(75 \times 1) + (75 \times \frac{1}{2}) = 75 + 37.5 = 112.5$
f. Possible estimate: 300; $3 \times 100 = 300$
6. **a.** 1.92 **b.** 5.731 **c.** 10.32
d. 6.1 **e.** 111.9 **f.** 304
7. **a.** 54.45 **b.** 54.945 **c.** 54.9945
d. 54.99945

In each answer, the whole number part is 54; each decimal part ends in 45; each decimal part begins one fewer 9 than the number of 9's in the decimal part of the second factor

Skill: Multiplying Decimals

1. 12.47 **2.** 14.787 **3.** 37.17
4. 4.359 **5.** 2.46 **6.** 72.6
7. 69.446 **8.** 0.0095 **9.** 0.576
10. 4.8 **11.** 1,839.18 **12.** 0.3096
13. 597 **14.** 4 **15.** 2.4
16. 523 **17.** 380 **18.** 210
19. $12 \times \$0.59 = \$7.08$
20. $10 \times \$0.02 = \$0.20$
21. $8 \times \$0.10 = \$0.80$
22. $\$0.09 \times 24 = \$2.16$
23. $<$ **24.** $=$ **25.** $>$ **26.** $<$

Investigation 3 Additional Practice

1. 77.4 tiles
2. \$1.96
3. **a.** greater than 1 **b.** greater than 1
c. greater than 1 **d.** less than 1
4. **a.** 0.7, 7, 70, 700; the quotient is multiplied by ten each time the divisor is divided by ten
b. 0.7, 0.07, 0.007, 0.0007 the quotient is divided by ten each time the dividend is divided by ten
c. 0.7, 0.7, 0.7, 0.7; the quotients are the same since the dividend and the disivor are each divided by ten each time
5. **a.** 780 **b.** 7.8 **c.** 0.78
d. 0.078 **e.** 7,800 **f.** 78,000
6. **a.** 12.3 **b.** 1.23 **c.** 0.123
d. 12.3 **e.** 1.23 **f.** 0.123
7. **a.** 15 **b.** 1,610 **c.** 0.645
d. 64.5 **e.** 0.5 **f.** 4.7

Skill: Dividing Decimals

1. 0.78 **2.** 0.0891 **3.** 4.63
4. 0.06 **5.** 0.145 **6.** 0.623
7. 20 **8.** 78 **9.** 130
10. 2.7 **11.** 3.4 **12.** 3
13. 63.5 **14.** 1.2 **15.** 0.6
16. $>$ **17.** $=$ **18.** 0.3
19. 0.2 **20.** 0.3 **21.** 2.4
22. 8.2 **23.** 21.6 **24.** 0.35 **25.** 5.025
26. 1.248 **27.** \$.23 **28.** 2.3 in. **29.** 9.10 kg
30. 31.25; terminating **31.** 19.2; terminating
32. 8.3; repeating

Investigation 4 Additional Practice

1. **a.** 38%
b. **i.** 220 **ii.** 135
c. 284
2. **a.** 4,636 **b.** 3,338 **c.** 1,298 **d.** 6,687
3. \$3.49
4. **a.** $\frac{3}{10}$ **b.** \$62.30 **c.** \$65.10
5. They need to raise $\$175 \times 4 = \$700$.
6. **a.** The cost is 1.25 times what the cost was last year.
b. $\$2 \times 1.25 = \$2.50$

Bits and Pieces III Practice Answers

Skill: Using Percents

1. Possible answer: \$3.50
2. Possible answer: \$180
3. Possible answer: \$0.78 tax; \$13.78 total
4. Possible answer: \$11,200
5. Possible answer: \$66.50
6. $100\% - 13\% = 87\%$; $x = \$7.95 \times 87\%$; $x = \$6.92$
7. $100\% - 4\% = 96\%$; $x = \$650{,}000 \times 96\%$; $x = \$624{,}000$
8. 78%
9. 28
10. 20
11. 40
12. 80
13. 4
14. 150
15. 16.8
16. 54
17. 15
18a. 19 pounds
18b. 1 pound
18c. 10%
18d. 19 pounds
19. \$120

Investigation 5 Additional Practice

1. a. 130 students **b.** 31% **c.** 23% **d.** 46% **e.** 13.4%
2. 53.33%
3. 300%, since 45 is 100% of 45, and 135 is 3 times 45.
4. 25%
5. 69
6. 268.14
7. a. 42% **b.** 39.5%
c. i. 7 or 8 **ii.** 7 or 8
d. Becky would now have 58 hits for 137 times at bat so new BA $= \frac{58}{137} = .423$

Skill: More Percents

1. 95
2. 21.44
3. 102
4. $74\frac{2}{3}$
5. 62.5%
6. 42.5%
7. \$160
8. 560 employees
9. about 55%
10. 400 people
11. 6%
12. \$1,600
13.