

Unit 3.1

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|---------------------|---------------------|-------------------|
| 1. a) 0, identity | b) 21, commutative | c) 5, associative |
| d) 0, identity | e) 59, commutative | f) 8, associative |
| g) 6, associative | h) 950, commutative | |
| i) 401, commutative | j) 8, associative | |
| 2. 25, associative | 3. d | 4. yes |
| 5. a) 12+22 | b) 12+25 | c) 32+25 |
| | | d) 25+35 |

Unit 3.2

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|----------|-------|----------|-------|
| 1. a) 45 | b) 85 | 2. a) 75 | b) 86 |
| c) 91 | d) 70 | e) 100 | f) 64 |
| g) 75 | h) 92 | i) 91 | j) 59 |
| 3. 55 | 4. c | 5. 71 | 6. 94 |

Unit 3.3

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|-------------------|---------------|---------------|---------------|
| 1. a) 3,20,66,69 | b) 7,10,92,99 | c) 2,10,75,77 | d) 4,20,58,62 |
| 2. a) 12,53,12,72 | b) 4,4,11,91 | c) 6,6,23,63 | d) 14,3,14,84 |
| 3. a) 37 | b) 66 | c) 92 | d) 81 |
| 4. 43 | 5. d | 6. 72 | 7. 52 |

Unit 3.4

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|----------------------|--------|----------|-----------|
| 1. a) 30 | b) 80 | c) 50 | 2. a) 300 |
| b) 700 | c) 400 | d) 500 | e) 200 |
| 3. 700 than 600; 700 | 4. c | 5. \$500 | 6. 200 |

Unit 3.5

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|-----------------------------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------|
| 1. a) $\begin{array}{r} 40 \\ + 30 \\ \hline 70 \end{array}$ | b) $\begin{array}{r} 10 \\ + 50 \\ \hline 60 \end{array}$ | c) $\begin{array}{r} 60 \\ + 10 \\ \hline 70 \end{array}$ | d) $\begin{array}{r} 50 \\ + 40 \\ \hline 90 \end{array}$ |
| e) $\begin{array}{r} 20 \\ + 20 \\ \hline 40 \end{array}$ | f) $\begin{array}{r} 80 \\ + 10 \\ \hline 90 \end{array}$ | g) $\begin{array}{r} 80 \\ + 10 \\ \hline 90 \end{array}$ | h) $\begin{array}{r} 50 \\ + 20 \\ \hline 70 \end{array}$ |
| 2. a) $\begin{array}{r} 200 \\ + 400 \\ \hline 600 \end{array}$ | b) $\begin{array}{r} 500 \\ + 100 \\ \hline 600 \end{array}$ | c) $\begin{array}{r} 600 \\ + 200 \\ \hline 800 \end{array}$ | d) $\begin{array}{r} 700 \\ + 200 \\ \hline 900 \end{array}$ |
| 3. a) $\begin{array}{r} 270 \\ + 40 \\ \hline 310 \end{array}$ | b) $\begin{array}{r} 550 \\ + 70 \\ \hline 620 \end{array}$ | c) $\begin{array}{r} 700 \\ + 300 \\ \hline 1,000 \end{array}$ | d) $\begin{array}{r} 500 \\ + 300 \\ \hline 800 \end{array}$ |
| e) $\begin{array}{r} 600 \\ + 300 \\ \hline 900 \end{array}$ | f) $\begin{array}{r} 150 \\ + 100 \\ \hline 250 \end{array}$ | | |
| 4. \$160 | | 5. b | |
| 6. \$300 | | 7. 700 | |

Unit 3.6

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|----------|-------|---------|-------|
| 1. a) 42 | b) 60 | c) 73 | d) 51 |
| e) 5 | f) 8 | g) 25 | 2. 50 |
| 3. b | 4. 46 | 5. \$80 | |
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Unit 3.7

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|-----------|--------|------------|-----------------------|
| 1. a) 103 | b) 136 | c) 154 | d) 96 |
| e) 90 | f) 114 | g) 157 | h) 154 |
| 2. 120 | 3. c | 4. a) 100¢ | b) $38¢ + 64¢ = 102¢$ |
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Unit 3.8

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| 1. a) 132 | b) 9 | | |
| 2. c | | | |
| 3. a) > | b) < | c) > | d) < |
| 4. 70 | | | |
| 5. a) 122 | b) 171 | c) 538 | d) 1,016 |
| 6. 800 | | | |
| 7. 64 | | | |
| 8. 600 | | | |
| 9. about 300 | | | |
| 10. a) no | b) yes | | |
| 11. 201; add | | | |
| 12. a) 159 | b) 119 | | |
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