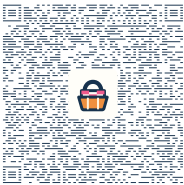


Grade 5 Decimals Workbook

5 lessons · printable · answer key at the back



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Name _____ Date _____

Contents

Chapter 1 · Decimals	
1-1 Decimal Place Value	1
1-2 Comparing Decimals	2
1-3 Multiplying and Dividing by 10, 100 and 1000	3
1-4 Adding and Subtracting Decimals	4
1-5 Multiplying Decimals	6

Decimal Place Value

WORKED EXAMPLE

44.815 → 0.8

1. What the digit is worth

Write the value of the highlighted digit.

- | | | |
|----------------------------|----------------------------|----------------------------|
| 1 23.55 <u>6</u> → _____ | 2 5. <u>9</u> 59 → _____ | 3 57. <u>3</u> 89 → _____ |
| 4 10.1 <u>3</u> 7 → _____ | 5 12.16 <u>5</u> → _____ | 6 45.50 <u>2</u> → _____ |
| 7 24. <u>8</u> 56 → _____ | 8 17.8 <u>6</u> 7 → _____ | 9 80.4 <u>6</u> 7 → _____ |
| 10 16.7 <u>8</u> 8 → _____ | 11 47.0 <u>3</u> 8 → _____ | 12 28.00 <u>8</u> → _____ |
| 13 19. <u>7</u> 02 → _____ | 14 36.79 <u>5</u> → _____ | 15 4.8 <u>1</u> 0 → _____ |
| 16 30. <u>8</u> 01 → _____ | 17 45.6 <u>1</u> 4 → _____ | 18 24.96 <u>5</u> → _____ |
| 19 4. <u>7</u> 28 → _____ | 20 49.74 <u>8</u> → _____ | 21 27.67 <u>3</u> → _____ |
| 22 79. <u>8</u> 85 → _____ | 23 0.28 <u>6</u> → _____ | 24 39. <u>3</u> 07 → _____ |
| 25 4.7 <u>4</u> 8 → _____ | 26 15.9 <u>6</u> 8 → _____ | 27 49. <u>5</u> 88 → _____ |
| 28 29.71 <u>9</u> → _____ | 29 16. <u>2</u> 50 → _____ | 30 47.53 <u>8</u> → _____ |
| 31 10.1 <u>2</u> 0 → _____ | 32 77.3 <u>8</u> 4 → _____ | 33 25.1 <u>1</u> 6 → _____ |
| 34 30.7 <u>9</u> 7 → _____ | 35 31.05 <u>9</u> → _____ | 36 15. <u>5</u> 03 → _____ |
| 37 28.89 <u>9</u> → _____ | 38 42. <u>5</u> 20 → _____ | 39 4. <u>1</u> 13 → _____ |
| 40 34.2 <u>2</u> 2 → _____ | 41 14. <u>3</u> 70 → _____ | 42 86.01 <u>4</u> → _____ |
| 43 20.4 <u>5</u> 2 → _____ | 44 1. <u>4</u> 92 → _____ | 45 65.83 <u>6</u> → _____ |
| 46 28.35 <u>3</u> → _____ | 47 16. <u>7</u> 03 → _____ | 48 44. <u>8</u> 03 → _____ |
| 49 21.11 <u>7</u> → _____ | 50 24.6 <u>5</u> 4 → _____ | |

Comparing Decimals

WORKED EXAMPLE

$$0.8 \boxed{<} 7.5$$

2. Compare decimals

Write $>$, $=$, or $<$ between each pair of decimals.

- | | | | |
|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| 1 4.1 <input type="text"/> 0.39 | 2 8.2 <input type="text"/> 7.21 | 3 3.5 <input type="text"/> 2.7 | 4 4.8 <input type="text"/> 1.4 |
| 5 7.33 <input type="text"/> 5.59 | 6 2.4 <input type="text"/> 2.9 | 7 9.4 <input type="text"/> 3.01 | 8 1.2 <input type="text"/> 3.3 |
| 9 6.2 <input type="text"/> 1.8 | 10 4.5 <input type="text"/> 8.55 | 11 6.62 <input type="text"/> 2.81 | 12 0.8 <input type="text"/> 5.4 |
| 13 8.5 <input type="text"/> 6.1 | 14 0.10 <input type="text"/> 7.92 | 15 0.7 <input type="text"/> 4.6 | 16 9.09 <input type="text"/> 7.6 |
| 17 9.6 <input type="text"/> 7.4 | 18 3.6 <input type="text"/> 9.7 | 19 0.9 <input type="text"/> 1.5 | 20 9.6 <input type="text"/> 6.2 |
| 21 3.43 <input type="text"/> 8.53 | 22 0.36 <input type="text"/> 0.6 | 23 6.2 <input type="text"/> 4.1 | 24 5.1 <input type="text"/> 2.83 |
| 25 9.56 <input type="text"/> 3.6 | 26 3.4 <input type="text"/> 4.2 | 27 1.26 <input type="text"/> 9.88 | 28 0.7 <input type="text"/> 2.12 |
| 29 4.82 <input type="text"/> 1.84 | 30 5.9 <input type="text"/> 4.1 | 31 0.81 <input type="text"/> 5.6 | 32 4.3 <input type="text"/> 7.08 |
| 33 6.8 <input type="text"/> 9.2 | 34 2.8 <input type="text"/> 8.37 | 35 2.95 <input type="text"/> 3.06 | 36 1.2 <input type="text"/> 6.01 |
| 37 9.5 <input type="text"/> 8.1 | 38 4.0 <input type="text"/> 2.84 | 39 4.71 <input type="text"/> 0.74 | 40 2.28 <input type="text"/> 7.9 |
| 41 1.4 <input type="text"/> 0.90 | 42 0.30 <input type="text"/> 8.0 | 43 6.7 <input type="text"/> 7.95 | 44 6.28 <input type="text"/> 8.56 |
| 45 1.3 <input type="text"/> 1.9 | 46 6.3 <input type="text"/> 3.44 | 47 3.1 <input type="text"/> 1.80 | 48 9.87 <input type="text"/> 0.47 |
| 49 0.3 <input type="text"/> 0.8 | 50 2.39 <input type="text"/> 6.9 | | |

Multiplying and Dividing by 10, 100 and 1000

WORKED EXAMPLE

$$8.5 \times 10 = \underline{85}$$

3. Multiply and divide by 10, 100, 1000

Multiply or divide by moving the decimal point.

- | | |
|-------------------------------|-------------------------------|
| 1 $0.29 \div 10 =$ _____ | 2 $6.54 \div 100 =$ _____ |
| 3 $3.4 \div 1000 =$ _____ | 4 $7.87 \times 10 =$ _____ |
| 5 $4.3 \div 1000 =$ _____ | 6 $1.57 \div 100 =$ _____ |
| 7 $1.3 \div 1000 =$ _____ | 8 $3.76 \times 1000 =$ _____ |
| 9 $1.6 \times 100 =$ _____ | 10 $1.6 \div 10 =$ _____ |
| 11 $7.78 \times 100 =$ _____ | 12 $8.6 \div 100 =$ _____ |
| 13 $2.43 \div 10 =$ _____ | 14 $8.24 \times 10 =$ _____ |
| 15 $6.8 \div 100 =$ _____ | 16 $4.94 \times 100 =$ _____ |
| 17 $2.4 \div 100 =$ _____ | 18 $1.1 \times 1000 =$ _____ |
| 19 $1.89 \div 10 =$ _____ | 20 $0.3 \div 1000 =$ _____ |
| 21 $7.36 \times 100 =$ _____ | 22 $3.68 \div 10 =$ _____ |
| 23 $9.3 \div 10 =$ _____ | 24 $2.6 \times 1000 =$ _____ |
| 25 $9.8 \times 10 =$ _____ | 26 $2.9 \div 10 =$ _____ |
| 27 $8.64 \times 1000 =$ _____ | 28 $8.1 \div 10 =$ _____ |
| 29 $4.8 \times 100 =$ _____ | 30 $7.46 \div 100 =$ _____ |
| 31 $1.4 \div 1000 =$ _____ | 32 $4.44 \div 10 =$ _____ |
| 33 $8.47 \times 10 =$ _____ | 34 $1.3 \times 10 =$ _____ |
| 35 $1.3 \times 100 =$ _____ | 36 $9.28 \div 1000 =$ _____ |
| 37 $0.7 \div 10 =$ _____ | 38 $8.27 \times 1000 =$ _____ |
| 39 $4.22 \div 1000 =$ _____ | 40 $0.2 \times 100 =$ _____ |
| 41 $9.68 \div 10 =$ _____ | 42 $1.75 \div 10 =$ _____ |
| 43 $0.15 \times 100 =$ _____ | 44 $7.9 \times 100 =$ _____ |
| 45 $0.25 \div 10 =$ _____ | 46 $4.06 \times 10 =$ _____ |
| 47 $7.06 \times 10 =$ _____ | 48 $7.8 \div 1000 =$ _____ |
| 49 $2.16 \div 1000 =$ _____ | 50 $7.64 \times 100 =$ _____ |

Adding and Subtracting Decimals

WORKED EXAMPLE

$$\begin{array}{r}
 0.14 \\
 \cancel{14.13} \\
 - 9.01 \\
 \hline
 5.12
 \end{array}$$

4. Add and subtract decimals

Add or subtract the decimals.

$$\begin{array}{r}
 1 \quad 18.74 \\
 - 15.87 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 2 \quad 3.24 \\
 + 6.02 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 3 \quad 3.08 \\
 + 18.49 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 4 \quad 6.67 \\
 - 3.81 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 5 \quad 9.02 \\
 + 6.64 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 6 \quad 17.52 \\
 + 1.17 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 7 \quad 17.30 \\
 - 10.67 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 8 \quad 1.92 \\
 + 7.76 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 9 \quad 15.05 \\
 + 3.60 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 10 \quad 0.38 \\
 + 4.29 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 11 \quad 6.95 \\
 + 8.11 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 12 \quad 17.52 \\
 + 5.57 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 13 \quad 10.32 \\
 + 15.80 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 14 \quad 18.57 \\
 - 10.78 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 15 \quad 9.48 \\
 + 7.06 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 16 \quad 13.60 \\
 + 12.04 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 17 \quad 10.00 \\
 - 0.02 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 18 \quad 19.51 \\
 + 5.93 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 19 \quad 2.77 \\
 + 2.94 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 20 \quad 16.81 \\
 + 13.52 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 21 \quad 14.48 \\
 - 5.00 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 22 \quad 15.07 \\
 - 11.29 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 23 \quad 19.49 \\
 + 3.77 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 24 \quad 8.17 \\
 + 4.76 \\
 \hline
 \end{array}$$

5. What the digit is worth

Write the value of the highlighted digit.

25 $29.\underline{8}25 \rightarrow$ _____

26 $61.\underline{3}26 \rightarrow$ _____

27 $86.\underline{6}21 \rightarrow$ _____

28 $29.60\underline{9} \rightarrow$ _____

29 $33.6\underline{1}8 \rightarrow$ _____

30 $81.\underline{3}22 \rightarrow$ _____

31 $17.99\underline{4} \rightarrow$ _____

32 $50.\underline{2}15 \rightarrow$ _____

33 $83.2\underline{6}0 \rightarrow$ _____

34 $2.\underline{7}52 \rightarrow$ _____

Multiplying Decimals

WORKED EXAMPLE

$$7.1 \times 11 = \underline{78.1}$$

6. Multiply and divide decimals

Multiply the decimals.

- | | | |
|-------------------------------|-------------------------------|-------------------------------|
| 1 $1.91 \times 8.1 =$ _____ | 2 $8.9 \times 3 =$ _____ | 3 $4.94 \times 4.70 =$ _____ |
| 4 $9.03 \times 7 =$ _____ | 5 $5.04 \times 7.8 =$ _____ | 6 $7.18 \times 6 =$ _____ |
| 7 $7.30 \times 7.08 =$ _____ | 8 $5.1 \times 3.6 =$ _____ | 9 $5.57 \times 1.47 =$ _____ |
| 10 $1.1 \times 5.38 =$ _____ | 11 $6.9 \times 3.25 =$ _____ | 12 $0.47 \times 3.92 =$ _____ |
| 13 $7.2 \times 2.13 =$ _____ | 14 $5.85 \times 1.50 =$ _____ | 15 $11.0 \times 4 =$ _____ |
| 16 $8.81 \times 8.7 =$ _____ | 17 $1.90 \times 4.1 =$ _____ | 18 $8.2 \times 4.70 =$ _____ |
| 19 $4.89 \times 1.5 =$ _____ | 20 $5.02 \times 8.4 =$ _____ | 21 $3.63 \times 1.82 =$ _____ |
| 22 $5.41 \times 4 =$ _____ | 23 $3.96 \times 7.69 =$ _____ | 24 $6.92 \times 0.45 =$ _____ |
| 25 $1.3 \times 0.71 =$ _____ | 26 $3.31 \times 2.8 =$ _____ | 27 $5.5 \times 8.97 =$ _____ |
| 28 $2.97 \times 7.6 =$ _____ | 29 $1.95 \times 12 =$ _____ | 30 $7.65 \times 2.49 =$ _____ |
| 31 $0.89 \times 8.02 =$ _____ | 32 $6.82 \times 3 =$ _____ | 33 $7.01 \times 8.8 =$ _____ |
| 34 $1.48 \times 4.81 =$ _____ | 35 $7.8 \times 6 =$ _____ | 36 $0.37 \times 5.6 =$ _____ |
| 37 $4.91 \times 6.43 =$ _____ | 38 $4.98 \times 3.54 =$ _____ | 39 $0.7 \times 5.51 =$ _____ |
| 40 $6.64 \times 6.2 =$ _____ | 41 $4.74 \times 7.28 =$ _____ | 42 $11.85 \times 5 =$ _____ |
| 43 $0.54 \times 3.22 =$ _____ | 44 $4.56 \times 0.2 =$ _____ | |

7. Compare decimals

Write $>$, $=$, or $<$ between each pair of decimals.

- | | | | |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 45 $9.8 \boxed{} 9.62$ | 46 $0.20 \boxed{} 5.7$ | 47 $6.75 \boxed{} 2.19$ | 48 $1.26 \boxed{} 9.88$ |
| 49 $3.16 \boxed{} 7.46$ | 50 $6.5 \boxed{} 3.2$ | 51 $4.49 \boxed{} 9.5$ | 52 $2.8 \boxed{} 1.3$ |
| 53 $5.72 \boxed{} 6.37$ | 54 $2.12 \boxed{} 0.09$ | | |

Answer Key (1 of 3)

Decimal Place Value

What the digit is worth

1. 23.556 (6) $\rightarrow$ 0.006
2. 5.959 (9) $\rightarrow$ 0.9
3. 57.389 (3) $\rightarrow$ 0.3
4. 10.137 (3) $\rightarrow$ 0.03
5. 12.165 (5) $\rightarrow$ 0.005
6. 45.502 (2) $\rightarrow$ 0.002
7. 24.856 (8) $\rightarrow$ 0.8
8. 17.867 (6) $\rightarrow$ 0.06
9. 80.467 (6) $\rightarrow$ 0.06
10. 16.788 (8) $\rightarrow$ 0.08
11. 47.038 (3) $\rightarrow$ 0.03
12. 28.008 (8) $\rightarrow$ 0.008
13. 19.702 (7) $\rightarrow$ 0.7
14. 36.795 (5) $\rightarrow$ 0.005
15. 4.810 (1) $\rightarrow$ 0.01
16. 30.801 (8) $\rightarrow$ 0.8
17. 45.614 (1) $\rightarrow$ 0.01
18. 24.965 (5) $\rightarrow$ 0.005
19. 4.728 (7) $\rightarrow$ 0.7
20. 49.748 (8) $\rightarrow$ 0.008
21. 27.673 (3) $\rightarrow$ 0.003
22. 79.885 (8) $\rightarrow$ 0.8
23. 0.286 (6) $\rightarrow$ 0.006
24. 39.307 (3) $\rightarrow$ 0.3
25. 4.748 (4) $\rightarrow$ 0.04
26. 15.968 (6) $\rightarrow$ 0.06
27. 49.588 (5) $\rightarrow$ 0.5
28. 29.719 (9) $\rightarrow$ 0.009
29. 16.250 (2) $\rightarrow$ 0.2
30. 47.538 (8) $\rightarrow$ 0.008
31. 10.120 (2) $\rightarrow$ 0.02
32. 77.384 (8) $\rightarrow$ 0.08
33. 25.116 (1) $\rightarrow$ 0.01
34. 30.797 (9) $\rightarrow$ 0.09
35. 31.059 (9) $\rightarrow$ 0.009
36. 15.503 (5) $\rightarrow$ 0.5
37. 28.899 (9) $\rightarrow$ 0.009
38. 42.520 (5) $\rightarrow$ 0.5
39. 4.113 (1) $\rightarrow$ 0.1
40. 34.222 (2) $\rightarrow$ 0.02
41. 14.370 (3) $\rightarrow$ 0.3
42. 86.014 (4) $\rightarrow$ 0.004
43. 20.452 (5) $\rightarrow$ 0.05
44. 1.492 (4) $\rightarrow$ 0.4
45. 65.836 (6) $\rightarrow$ 0.006

Decimal Place Value (continued)

What the digit is worth (continued)

46. 28.353 (3) $\rightarrow$ 0.003
47. 16.703 (7) $\rightarrow$ 0.7
48. 44.803 (8) $\rightarrow$ 0.8
49. 21.117 (7) $\rightarrow$ 0.007
50. 24.654 (5) $\rightarrow$ 0.05

Comparing Decimals

Compare decimals

1. $4.1 > 0.39$
2. $8.2 > 7.21$
3. $3.5 > 2.7$
4. $4.8 > 1.4$
5. $7.33 > 5.59$
6. $2.4 < 2.9$
7. $9.4 > 3.01$
8. $1.2 < 3.3$
9. $6.2 > 1.8$
10. $4.5 < 8.55$
11. $6.62 > 2.81$
12. $0.8 < 5.4$
13. $8.5 > 6.1$
14. $0.10 < 7.92$
15. $0.7 < 4.6$
16. $9.09 > 7.6$
17. $9.6 > 7.4$
18. $3.6 < 9.7$
19. $0.9 < 1.5$
20. $9.6 > 6.2$
21. $3.43 < 8.53$
22. $0.36 < 0.6$
23. $6.2 > 4.1$
24. $5.1 > 2.83$
25. $9.56 > 3.6$
26. $3.4 < 4.2$
27. $1.26 < 9.88$
28. $0.7 < 2.12$
29. $4.82 > 1.84$
30. $5.9 > 4.1$
31. $0.81 < 5.6$
32. $4.3 < 7.08$
33. $6.8 < 9.2$
34. $2.8 < 8.37$
35. $2.95 < 3.06$
36. $1.2 < 6.01$
37. $9.5 > 8.1$

Answer Key (2 of 3)

Comparing Decimals (continued)

Compare decimals (continued)

38. $4.0 > 2.84$
39. $4.71 > 0.74$
40. $2.28 < 7.9$
41. $1.4 > 0.90$
42. $0.30 < 8.0$
43. $6.7 < 7.95$
44. $6.28 < 8.56$
45. $1.3 < 1.9$
46. $6.3 > 3.44$
47. $3.1 > 1.80$
48. $9.87 > 0.47$
49. $0.3 < 0.8$
50. $2.39 < 6.9$

Multiplying and Dividing by 10, 100 and 1000

Multiply and divide by 10, 100, 1000

1. $0.29 \div 10 = 0.029$
2. $6.54 \div 100 = 0.0654$
3. $3.4 \div 1000 = 0.0034$
4. $7.87 \times 10 = 78.7$
5. $4.3 \div 1000 = 0.0043$
6. $1.57 \div 100 = 0.0157$
7. $1.3 \div 1000 = 0.0013$
8. $3.76 \times 1000 = 3760$
9. $1.6 \times 100 = 160$
10. $1.6 \div 10 = 0.16$
11. $7.78 \times 100 = 778$
12. $8.6 \div 100 = 0.086$
13. $2.43 \div 10 = 0.243$
14. $8.24 \times 10 = 82.4$
15. $6.8 \div 100 = 0.068$
16. $4.94 \times 100 = 494$
17. $2.4 \div 100 = 0.024$
18. $1.1 \times 1000 = 1100$
19. $1.89 \div 10 = 0.189$
20. $0.3 \div 1000 = 0.0003$
21. $7.36 \times 100 = 736$
22. $3.68 \div 10 = 0.368$
23. $9.3 \div 10 = 0.93$
24. $2.6 \times 1000 = 2600$
25. $9.8 \times 10 = 98$
26. $2.9 \div 10 = 0.29$
27. $8.64 \times 1000 = 8640$
28. $8.1 \div 10 = 0.81$
29. $4.8 \times 100 = 480$

Multiplying and Dividing by 10, 100 and 1000 (continued)

Multiply and divide by 10, 100, 1000 (continued)

30. $7.46 \div 100 = 0.0746$
31. $1.4 \div 1000 = 0.0014$
32. $4.44 \div 10 = 0.444$
33. $8.47 \times 10 = 84.7$
34. $1.3 \times 10 = 13$
35. $1.3 \times 100 = 130$
36. $9.28 \div 1000 = 0.00928$
37. $0.7 \div 10 = 0.07$
38. $8.27 \times 1000 = 8270$
39. $4.22 \div 1000 = 0.00422$
40. $0.2 \times 100 = 20$
41. $9.68 \div 10 = 0.968$
42. $1.75 \div 10 = 0.175$
43. $0.15 \times 100 = 15$
44. $7.9 \times 100 = 790$
45. $0.25 \div 10 = 0.025$
46. $4.06 \times 10 = 40.6$
47. $7.06 \times 10 = 70.6$
48. $7.8 \div 1000 = 0.0078$
49. $2.16 \div 1000 = 0.00216$
50. $7.64 \times 100 = 764$

Adding and Subtracting Decimals

Add and subtract decimals

1. $18.74 - 15.87 = 2.87$
2. $3.24 + 6.02 = 9.26$
3. $3.08 + 18.49 = 21.57$
4. $6.67 - 3.81 = 2.86$
5. $9.02 + 6.64 = 15.66$
6. $17.52 + 1.17 = 18.69$
7. $17.30 - 10.67 = 6.63$
8. $1.92 + 7.76 = 9.68$
9. $15.05 + 3.60 = 18.65$
10. $0.38 + 4.29 = 4.67$
11. $6.95 + 8.11 = 15.06$
12. $17.52 + 5.57 = 23.09$
13. $10.32 + 15.80 = 26.12$
14. $18.57 - 10.78 = 7.79$
15. $9.48 + 7.06 = 16.54$
16. $13.60 + 12.04 = 25.64$
17. $10.00 - 0.02 = 9.98$
18. $19.51 + 5.93 = 25.44$
19. $2.77 + 2.94 = 5.71$
20. $16.81 + 13.52 = 30.33$
21. $14.48 - 5.00 = 9.48$

Answer Key (3 of 3)

Adding and Subtracting Decimals (continued)

Add and subtract decimals (continued)

22. $15.07 - 11.29 = 3.78$

23. $19.49 + 3.77 = 23.26$

24. $8.17 + 4.76 = 12.93$

What the digit is worth

25. 29.825 (8) $\rightarrow 0.8$

26. 61.326 (3) $\rightarrow 0.3$

27. 86.621 (2) $\rightarrow 0.02$

28. 29.609 (9) $\rightarrow 0.009$

29. 33.618 (1) $\rightarrow 0.01$

30. 81.322 (3) $\rightarrow 0.3$

31. 17.994 (4) $\rightarrow 0.004$

32. 50.215 (2) $\rightarrow 0.2$

33. 83.260 (6) $\rightarrow 0.06$

34. 2.752 (7) $\rightarrow 0.7$

Multiplying Decimals

Multiply and divide decimals

1. $1.91 \times 8.1 = 15.471$

2. $8.9 \times 3 = 26.7$

3. $4.94 \times 4.70 = 23.2180$

4. $9.03 \times 7 = 63.21$

5. $5.04 \times 7.8 = 39.312$

6. $7.18 \times 6 = 43.08$

7. $7.30 \times 7.08 = 51.6840$

8. $5.1 \times 3.6 = 18.36$

9. $5.57 \times 1.47 = 8.1879$

10. $1.1 \times 5.38 = 5.918$

11. $6.9 \times 3.25 = 22.425$

12. $0.47 \times 3.92 = 1.8424$

13. $7.2 \times 2.13 = 15.336$

14. $5.85 \times 1.50 = 8.7750$

15. $11.0 \times 4 = 44.0$

16. $8.81 \times 8.7 = 76.647$

17. $1.90 \times 4.1 = 7.790$

18. $8.2 \times 4.70 = 38.540$

19. $4.89 \times 1.5 = 7.335$

20. $5.02 \times 8.4 = 42.168$

21. $3.63 \times 1.82 = 6.6066$

22. $5.41 \times 4 = 21.64$

23. $3.96 \times 7.69 = 30.4524$

24. $6.92 \times 0.45 = 3.1140$

25. $1.3 \times 0.71 = 0.923$

26. $3.31 \times 2.8 = 9.268$

Multiplying Decimals (continued)

Multiply and divide decimals (continued)

27. $5.5 \times 8.97 = 49.335$

28. $2.97 \times 7.6 = 22.572$

29. $1.95 \times 12 = 23.40$

30. $7.65 \times 2.49 = 19.0485$

31. $0.89 \times 8.02 = 7.1378$

32. $6.82 \times 3 = 20.46$

33. $7.01 \times 8.8 = 61.688$

34. $1.48 \times 4.81 = 7.1188$

35. $7.8 \times 6 = 46.8$

36. $0.37 \times 5.6 = 2.072$

37. $4.91 \times 6.43 = 31.5713$

38. $4.98 \times 3.54 = 17.6292$

39. $0.7 \times 5.51 = 3.857$

40. $6.64 \times 6.2 = 41.168$

41. $4.74 \times 7.28 = 34.5072$

42. $11.85 \times 5 = 59.25$

43. $0.54 \times 3.22 = 1.7388$

44. $4.56 \times 0.2 = 0.912$

Compare decimals

45. $9.8 > 9.62$

46. $0.20 < 5.7$

47. $6.75 > 2.19$

48. $1.26 < 9.88$

49. $3.16 < 7.46$

50. $6.5 > 3.2$

51. $4.49 < 9.5$

52. $2.8 > 1.3$

53. $5.72 < 6.37$

54. $2.12 > 0.09$

Solutions (1 of 4)

Decimal Place Value

What the digit is worth

1. $23.55\textcolor{red}{6} \rightarrow \underline{\hspace{2cm}}$

number: 2 3 . 5 5 $\textcolor{blue}{6}$
 6 $\rightarrow$ $\textcolor{blue}{0.006}$

The places do not mirror each other around the point — there is no "oneths". Going right they are tenths, hundredths, thousandths: each one ten times SMALLER than the last.

Count in from the point: the 6 sits in the thousandths.

Its VALUE is what it is worth there, not the digit itself: 6 in the thousandths is 0.006. That gap between "6" and "0.006" is the whole of this topic.

2. $5.\textcolor{red}{9}59 \rightarrow \underline{\hspace{2cm}}$

number: 5 . $\textcolor{blue}{9}$ 5 9
 9 $\rightarrow$ $\textcolor{blue}{0.9}$

The places do not mirror each other around the point — there is no "oneths". Going right they are tenths, hundredths, thousandths: each one ten times SMALLER than the last.

Count in from the point: the 9 sits in the tenths.

Its VALUE is what it is worth there, not the digit itself: 9 in the tenths is 0.9. That gap between "9" and "0.9" is the whole of this topic.

Comparing Decimals

Compare decimals

1. $4.1 \boxed{} 0.39$

4.10 ? 0.39
410 hundredths $\textcolor{blue}{>}$
39 hundredths
4.1 $\textcolor{blue}{>}$ 0.39

These count different sized pieces — one is in bigger pieces and the other is not. Longer does NOT mean bigger with decimals, so the first job is to make the pieces match.

Write a zero on the end of the shorter one. 4.1 is the same amount as 4.10 — a zero on the END of a decimal changes nothing.

Now they are both hundredths: 410 against 39. 410 is more. So $4.1 > 0.39$.

Solutions (2 of 4)

Comparing Decimals (continued)

Compare decimals (continued)

2. $8.2 \square 7.21$

8.20 ? 7.21
820 hundredths >
721 hundredths
8.2 > 7.21

These count different sized pieces — one is in bigger pieces and the other is not. Longer does NOT mean bigger with decimals, so the first job is to make the pieces match.

Write a zero on the end of the shorter one. 8.2 is the same amount as 8.20 — a zero on the END of a decimal changes nothing.

Now they are both hundredths: 820 against 721. 820 is more. So $8.2 > 7.21$.

Multiplying and Dividing by 10, 100 and 1000

Multiply and divide by 10, 100, 1000

1. $0.29 \div 10 = \underline{\hspace{2cm}}$

$0.29 \div 10$
 0.029

10 is a single ten, so there is one move to make.

$\div 10$ — every digit is worth a tenth as much, so the point steps one place left: 0.029. The digits never changed — only where the point sits. $0.29 \div 10 = 0.029$.

2. $6.54 \div 100 = \underline{\hspace{2cm}}$

$6.54 \div 100$
 0.654
 0.0654

100 is 10×10 , so there are 2 moves to make — one for each ten.

$\div 10$ — every digit is worth a tenth as much, so the point steps one place left: 0.654.

And $\div 10$ again — every digit is worth a tenth as much, so the point steps one place left: 0.0654. The digits never changed — only where the point sits. $6.54 \div 100 = 0.0654$.

Solutions (3 of 4)

Adding and Subtracting Decimals

Add and subtract decimals

1.

$$\begin{array}{r} 7 16 14 \\ 1\cancel{8}.\cancel{7}\cancel{4} \\ - 15.87 \\ \hline 2.87 \end{array}$$

$18.74 - 15.87$. Line the POINTS up under each other — not the right-hand ends. Right-aligning is what turns $12.5 + 3.75$ into a tidy-looking wrong answer.

4 is too small to take 7 from, so a ten comes across from the left: this column now holds 14. $14 - 7 = 7$.

7 is too small to take 8 from, so a ten comes across from the left: this column now holds 16. $16 - 8 = 8$.

This column gave a ten to the right, so it is now 7, not 8. $7 - 5 = 2$.

1 take away 1 leaves nothing — and a nothing at the front is not written, so the answer starts one place along.

The point in the answer comes straight down from the ones above it — it was never moved, only lined up. $18.74 - 15.87 = 2.87$.

2.

$$\begin{array}{r} 3.24 \\ + 6.02 \\ \hline 9.26 \end{array}$$

$3.24 + 6.02$. Line the POINTS up under each other — not the right-hand ends. Right-aligning is what turns $12.5 + 3.75$ into a tidy-looking wrong answer.

4 plus 2 makes 6. Write 6.

2 plus 0 makes 2. Write 2.

3 plus 6 makes 9. Write 9.

The point in the answer comes straight down from the ones above it — it was never moved, only lined up. $3.24 + 6.02 = 9.26$.

Solutions (4 of 4)

Multiplying Decimals

Multiply and divide decimals

1. $1.91 \times 8.1 = \underline{\hspace{2cm}}$

$$\begin{array}{r} 1.91 \times 8.1 \\ 191 \times 81 = 15471 \\ 1.91 \rightarrow 2 \text{ figures} \\ 8.1 \rightarrow 1 \text{ figure} \\ 15471 \quad 3 \text{ from the right} \\ 1.91 \times 8.1 = 15.471 \end{array}$$

Do NOT line the points up — that is for adding. For a multiply, take the points off and do it as whole numbers first.

$191 \times 81 = 15471$. Ordinary times-tables, nothing decimal about it.

Now count the figures after the points in the QUESTION: 2 figures in 1.91 and 1 figure in 8.1 — 3 altogether.

So the answer gets 3 too. Count 3 in from the right of 15471 and put the point there: 15.471.

2. $8.9 \times 3 = \underline{\hspace{2cm}}$

$$\begin{array}{r} 8.9 \times 3 \\ 89 \times 3 = 267 \\ 8.9 \rightarrow 1 \text{ figure} \\ 3 \rightarrow 0 \text{ figures} \\ 267 \quad 1 \text{ from the right} \\ 8.9 \times 3 = 26.7 \end{array}$$

Do NOT line the points up — that is for adding. For a multiply, take the points off and do it as whole numbers first.

$89 \times 3 = 267$. Ordinary times-tables, nothing decimal about it.

Now count the figures after the points in the QUESTION: 1 figure in 8.9 and 0 figures in 3 — 1 altogether.

So the answer gets 1 too. Count 1 in from the right of 267 and put the point there: 26.7.