

Grade 10 Essential

Mathematics

UNIT X – REVIEW / PRIOR STUDIES

WHOLE NUMBERS AND DECIMAL NUMBER OPERATIONS

WORKBOOK

→ NOT HANDIN

→ ANSWERS AT BACK

→ You will have Quiz
and test questions!

→ We will do a very few
in class!

ISS: 7NOV

Lesson 1 Addition (whole numbers)

Add the ones. Rename 27
as "2 tens and 7 ones."

Continue adding from
right to left.

$$\begin{array}{r} 212 \overset{2}{1}04 \\ 323 \overset{1}{6}16 \\ 132 \overset{1}{4}08 \\ +241 \overset{1}{7}59 \\ \hline 7 \end{array}$$



$$\begin{array}{r} \overset{1}{2}12 \overset{1}{1}04 \\ 323 \overset{2}{6}16 \\ 132 \overset{1}{4}08 \\ +241 \overset{1}{7}59 \\ \hline 909 \overset{1}{8}87 \end{array}$$

Add.

- | | <i>a</i> | <i>b</i> | <i>c</i> | <i>d</i> | <i>e</i> |
|-----------|--|---|--|--|---|
| 1. | $\begin{array}{r} 23 \\ +14 \\ \hline \end{array}$ | $\begin{array}{r} 224 \\ +73 \\ \hline \end{array}$ | $\begin{array}{r} 312 \\ +5324 \\ \hline \end{array}$ | $\begin{array}{r} 43 \ 214 \\ +4 \ 325 \\ \hline \end{array}$ | $\begin{array}{r} 41 \ 321 \\ +612 \ 314 \\ \hline \end{array}$ |
| 2. | $\begin{array}{r} 16 \\ 47 \\ +13 \\ \hline \end{array}$ | $\begin{array}{r} 217 \\ 316 \\ +142 \\ \hline \end{array}$ | $\begin{array}{r} 3317 \\ 2154 \\ +1212 \\ \hline \end{array}$ | $\begin{array}{r} 21 \ 016 \\ 14 \ 527 \\ +51 \ 202 \\ \hline \end{array}$ | $\begin{array}{r} 260 \ 316 \\ 217 \ 327 \\ +411 \ 342 \\ \hline \end{array}$ |
| 3. | $\begin{array}{r} 31 \\ 70 \\ 14 \\ +52 \\ \hline \end{array}$ | $\begin{array}{r} 273 \\ 162 \\ 253 \\ +210 \\ \hline \end{array}$ | $\begin{array}{r} 1131 \\ 2262 \\ 3473 \\ +1051 \\ \hline \end{array}$ | $\begin{array}{r} 41 \ 370 \\ 2 \ 151 \\ 33 \ 225 \\ +11 \ 118 \\ \hline \end{array}$ | $\begin{array}{r} 121 \ 065 \\ 302 \ 432 \\ 304 \ 144 \\ +41 \ 213 \\ \hline \end{array}$ |
| 4. | $\begin{array}{r} 36 \\ 75 \\ 84 \\ 31 \\ +17 \\ \hline \end{array}$ | $\begin{array}{r} 633 \\ 710 \\ 821 \\ 502 \\ +221 \\ \hline \end{array}$ | $\begin{array}{r} 1123 \\ 2651 \\ 1762 \\ 2873 \\ +1411 \\ \hline \end{array}$ | $\begin{array}{r} 11 \ 616 \\ 12 \ 573 \\ 21 \ 412 \\ 40 \ 331 \\ +13 \ 214 \\ \hline \end{array}$ | $\begin{array}{r} 232 \ 362 \\ 351 \ 171 \\ 64 \ 221 \\ 71 \ 141 \\ +182 \ 314 \\ \hline \end{array}$ |
| 5. | $\begin{array}{r} 34 \\ 76 \\ 58 \\ 67 \\ +73 \\ \hline \end{array}$ | $\begin{array}{r} 542 \\ 624 \\ 852 \\ 715 \\ +316 \\ \hline \end{array}$ | $\begin{array}{r} 7067 \\ 8458 \\ 5312 \\ 2521 \\ +1214 \\ \hline \end{array}$ | $\begin{array}{r} 31 \ 145 \\ 14 \ 214 \\ 3 \ 142 \\ 76 \ 125 \\ +3 \ 214 \\ \hline \end{array}$ | $\begin{array}{r} 212 \ 304 \\ 321 \ 456 \\ 214 \ 672 \\ 523 \ 214 \\ +314 \ 235 \\ \hline \end{array}$ |

Lesson 1 Problem Solving

Solve each problem.

1. On Thursday, 1335 books were borrowed from the library. On Friday, 1852 books were borrowed. How many books were borrowed in all?

_____ books were borrowed.

2. A carpenter ordered pieces of plywood. One box contained 158 pieces, another 232 pieces, and the third 116 pieces. How many pieces were received in all?

The carpenter received _____ pieces in all.

3. Three new homes were sold last week. The prices were \$215 422, \$199 554, and \$218 432. What were the total sales for the week?

The total sales were \$_____.

4. Joan drove 187 km in one day. She drove 207 km the next day. In all, how far did she drive?

Joan drove _____ km.

5. Sophia drove 415 km on the first day of her vacation. On the second day, she drove 520 km. How many kilometres did she drive in all?

Sophia drove _____ km in all.

6. Matthew is going to the school dance on Friday night. He bought a shirt for \$31 and a pair of pants for \$42. How much did he spend in all?

Matthew spent \$_____.

7. During a three-year period Mrs. Newman drove her car the following distances: 8456 km, 9754 km, and 7652 km. How many kilometres did she drive her car during the three years?

She drove _____ km.

1.

2.

3.

4.

5.

6.

7.

Lesson 2 Subtraction (whole numbers)

To subtract ones, rename
3 tens and 2 ones as
"2 tens and 12 ones."

$$\begin{array}{r} 9654\overset{2}{3}\overset{12}{2} \\ -121715 \\ \hline 7 \end{array}$$



Continue subtracting from right to left,
renaming as necessary.

$$\begin{array}{r} 96\overset{4}{5}\overset{14}{4}\overset{2}{3}\overset{12}{2} \\ -121715 \\ \hline 843717 \end{array}$$

Subtract.

- | | <i>a</i> | <i>b</i> | <i>c</i> | <i>d</i> | <i>e</i> |
|----|--|--|--|--|--|
| 1. | $\begin{array}{r} 37 \\ -6 \\ \hline \end{array}$ | $\begin{array}{r} 327 \\ -16 \\ \hline \end{array}$ | $\begin{array}{r} 4325 \\ -214 \\ \hline \end{array}$ | $\begin{array}{r} 17625 \\ -3214 \\ \hline \end{array}$ | $\begin{array}{r} 321459 \\ -20123 \\ \hline \end{array}$ |
| 2. | $\begin{array}{r} 59 \\ -14 \\ \hline \end{array}$ | $\begin{array}{r} 847 \\ -231 \\ \hline \end{array}$ | $\begin{array}{r} 6875 \\ -1534 \\ \hline \end{array}$ | $\begin{array}{r} 87654 \\ -14123 \\ \hline \end{array}$ | $\begin{array}{r} 582785 \\ -131524 \\ \hline \end{array}$ |
| 3. | $\begin{array}{r} 70 \\ -49 \\ \hline \end{array}$ | $\begin{array}{r} 968 \\ -159 \\ \hline \end{array}$ | $\begin{array}{r} 8752 \\ -4127 \\ \hline \end{array}$ | $\begin{array}{r} 78547 \\ -31218 \\ \hline \end{array}$ | $\begin{array}{r} 495627 \\ -314518 \\ \hline \end{array}$ |
| 4. | $\begin{array}{r} 97 \\ -78 \\ \hline \end{array}$ | $\begin{array}{r} 523 \\ -72 \\ \hline \end{array}$ | $\begin{array}{r} 5963 \\ -2172 \\ \hline \end{array}$ | $\begin{array}{r} 25753 \\ -14182 \\ \hline \end{array}$ | $\begin{array}{r} 457245 \\ -112158 \\ \hline \end{array}$ |
| 5. | $\begin{array}{r} 83 \\ -45 \\ \hline \end{array}$ | $\begin{array}{r} 675 \\ -289 \\ \hline \end{array}$ | $\begin{array}{r} 5028 \\ -4917 \\ \hline \end{array}$ | $\begin{array}{r} 86743 \\ -21892 \\ \hline \end{array}$ | $\begin{array}{r} 675247 \\ -321482 \\ \hline \end{array}$ |
| 6. | $\begin{array}{r} 45 \\ -27 \\ \hline \end{array}$ | $\begin{array}{r} 607 \\ -299 \\ \hline \end{array}$ | $\begin{array}{r} 8207 \\ -3149 \\ \hline \end{array}$ | $\begin{array}{r} 74003 \\ -21456 \\ \hline \end{array}$ | $\begin{array}{r} 900435 \\ -417624 \\ \hline \end{array}$ |
| 7. | $\begin{array}{r} 81 \\ -27 \\ \hline \end{array}$ | $\begin{array}{r} 700 \\ -287 \\ \hline \end{array}$ | $\begin{array}{r} 6732 \\ -865 \\ \hline \end{array}$ | $\begin{array}{r} 67524 \\ -29689 \\ \hline \end{array}$ | $\begin{array}{r} 351257 \\ -165268 \\ \hline \end{array}$ |

Lesson 2 Problem Solving

Solve each problem.

1. The population of Westerville is 54 552 and the population of Pickerington is 48 964. How many more people live in Westerville than live in Pickerington?

_____ more people live in Westerville.

2. Violet Elementary School parents and teachers raised \$2507 at the Spring Fair. At the Winter Carnival they raised \$3465. How much more money did they raise at the Winter Carnival?

They raised \$_____ more at the Winter Carnival.

3. Last year, the cost of a movie ticket at the Palace Theatre was \$8. This year, the cost is \$9. How much more does a ticket cost this year?

A ticket costs \$_____ more this year.

4. In Newville, 2243 families receive the evening paper and 1875 receive the morning paper. How many more families receive the evening paper?

_____ more families receive the evening paper.

5. Roy drove 2645 km last week. This week he drove 2847 km. How many kilometres more did he drive this week?

Roy drove _____ km more this week.

6. Nicholas paid \$45 for a book and a CD. The cost of the CD was \$15. How much was the book?

The book cost \$_____.

7. There were 316 people at last week's school dance. There were 284 people at this week's dance. How many more people were at last week's dance?

There were _____ more people last week.

1.

2.

3.

4.

5.

6.

7.

Lesson 3 Multiplication (whole numbers)

$$\begin{array}{r}
 4873 \\
 \times 296 \\
 \hline
 29238 \\
 438570 \\
 974600 \\
 \hline
 1442408
 \end{array}$$

_____ 6×4873
 _____ 90×4873
 _____ 200×4873

Add.

Multiply.

	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>
1.	$\begin{array}{r} 63 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 432 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 679 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 2312 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 7598 \\ \times 8 \\ \hline \end{array}$

2.	$\begin{array}{r} 68 \\ \times 20 \\ \hline \end{array}$	$\begin{array}{r} 700 \\ \times 34 \\ \hline \end{array}$	$\begin{array}{r} 212 \\ \times 43 \\ \hline \end{array}$	$\begin{array}{r} 1720 \\ \times 64 \\ \hline \end{array}$	$\begin{array}{r} 2806 \\ \times 97 \\ \hline \end{array}$
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3.	$\begin{array}{r} 341 \\ \times 200 \\ \hline \end{array}$	$\begin{array}{r} 213 \\ \times 320 \\ \hline \end{array}$	$\begin{array}{r} 403 \\ \times 212 \\ \hline \end{array}$	$\begin{array}{r} 1414 \\ \times 312 \\ \hline \end{array}$	$\begin{array}{r} 5875 \\ \times 678 \\ \hline \end{array}$
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4.	$\begin{array}{r} 700 \\ \times 426 \\ \hline \end{array}$	$\begin{array}{r} 646 \\ \times 925 \\ \hline \end{array}$	$\begin{array}{r} 925 \\ \times 436 \\ \hline \end{array}$	$\begin{array}{r} 9251 \\ \times 809 \\ \hline \end{array}$	$\begin{array}{r} 7487 \\ \times 869 \\ \hline \end{array}$
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Lesson 3 Problem Solving

Solve each problem.

1. There were 19 bands in the parade. Each band had 33 members. How many band members were in the parade in all?

There were _____ band members in all.

2. The farmer shipped 476 bags of potatoes to the market. Each bag had a mass of 26 kg. What was the mass of the potatoes in all?

The mass of the potatoes was _____ kg.

3. The manager of the local coffee shop ordered 19 boxes of coffee stirrers. Each box contained 165 stirrers. How many coffee stirrers did the manager order?

The manager ordered _____ stirrers.

4. Mrs. Pinkerman drives 47 km each day. How many kilometres will she drive in five days?

She will drive _____ km.

5. One apple costs 20¢. How much do 25 apples cost?

25 apples cost \$_____.

6. Ms. Combs bought six boxes of note cards on sale for \$7 per box. How much money did she spend?

She spent \$_____.

7. The bus fare from Toronto to Hamilton is \$19 for one person. There are seven people in the Davis family. How much will it cost them to make the trip?

It will cost them \$_____.

1.

2.

3.

4.

5.

6.

7.

Lesson 4 Division (whole numbers)

Think

$$312 \overline{)66\,831}$$

$312 \times 1000 = 312\,000$ Quotient is between 100 and 1000. So its
 $312 \times 100 = 312\,00$ first digit will be in the *hundreds* place.

3)6 is 2.

$$\begin{array}{r} 312 \overline{)66\,831} \\ \underline{62\,400} \\ 4\,431 \end{array}$$

3)4 is about 1.

$$\begin{array}{r} 312 \overline{)66\,831} \\ \underline{62\,400} \\ 4\,431 \\ \underline{3\,120} \\ 1\,311 \end{array}$$

3)13 is about 4.

$$\begin{array}{r} 312 \overline{)66\,831} \\ \underline{62\,400} \\ 4\,431 \\ \underline{3\,120} \\ 1\,311 \\ \underline{1\,248} \text{ remainder} \\ 63 \end{array}$$

Divide.

*a**b**c**d**e*

1. $9 \overline{)687}$

$42 \overline{)367}$

$58 \overline{)696}$

$123 \overline{)975}$

$421 \overline{)2354}$

2. $7 \overline{)1425}$

$57 \overline{)1457}$

$69 \overline{)8345}$

$521 \overline{)7295}$

$624 \overline{)12354}$

3. $6 \overline{)37524}$

$83 \overline{)12576}$

$37 \overline{)84576}$

$784 \overline{)79984}$

$379 \overline{)97542}$

Lesson 4 Problem Solving

Solve each problem.

1. Vinny won \$720 in a contest. The money will be paid in 12 equal payments. How much is each payment?

Each payment is \$ _____.

2. Emily is decorating for her mother's birthday. She needs to buy 42 balloons. The balloons come in packages of seven. How many packages will she need to buy?

She will need to buy _____ packages.

3. A group of 152 people want to ride river rafts. Each raft holds eight people. How many rafts are needed so that each person gets one ride?

_____ rafts are needed.

4. Nicholas and Matthew bought their mother a necklace. The necklace cost \$84. They shared the cost equally. How much did each pay?

Each paid \$ _____.

5. The school lunch committee will need 180 servings of spaghetti for the school's annual lunch meeting. Each box of spaghetti contains nine servings. How many boxes will be needed?

_____ boxes of spaghetti will be needed.

6. Kathy is buying juice for the party. She needs 132 servings. If each bottle of juice holds 12 servings, how many bottles must she buy?

She needs _____ bottles of juice.

7. Christopher and Raymond put 84 candles on their grandmother's birthday cake. There were seven candles in each box. How many boxes of candles did they need?

They needed _____ boxes of candles.

1.

2.

3.

4.

5.

6.

7.

Lesson 5 Problem Solving

Solve each problem.

1. Luke delivered 225 flyers on Fox Street, 134 on 87th Street, 218 on Hansen Street, and 229 on 89th Street. How many flyers did he deliver?

He delivered _____ flyers.

2. Wayne Gretzky scored 894 goals during his career. Gordie Howe scored 801. How many more goals did Gretzky score than Howe?

Gretzky scored _____ more goals.

3. If Ms. Jones drives 350 km each day, how many kilometres will she drive in four days?

She will drive _____ km.

4. A bricklayer laid 656 bricks in 8 h. Suppose the same number of bricks were laid each hour. How many bricks were laid each hour?

_____ bricks were laid each hour.

5. The load limit for a small bridge is 3000 kg. Mr. Sims' car has a mass of 1875 kg. How much less than the load limit is the mass of the car?

The car has a mass of _____ kg less.

6. One week the bakery used 144 sacks of flour. Suppose each sack of flour has a mass of 55 kg. What was the total mass of the flour used?

_____ kg of flour were used.

7. There are 17 370 items to be packed into boxes of 24 items each. How many boxes will be filled? How many items will be left over?

_____ boxes will be filled.

_____ items will be left over.

1.

2.

3.

4.

5.

6.

7.

Lesson 5 Problem Solving

Solve each problem.

1. The local Plumbers Union has 456 members. The local Carpenters Union has 875. How many more members does the Carpenters Union have than the Plumbers Union?

There are _____ more members in the Carpenters Union.

2. Seven cars can be loaded on a transport truck. Each car has a mass of 1875 kg. What is the total mass of the cars that can be loaded on the truck?

The total mass is _____ kg.

3. Mr. Cosgrove drove his car 10 462 km last year and 11 125 km this year. How many kilometres did he drive the car during these two years?

He drove the car _____ km.

4. There were 1172 women at a banquet. They were seated 8 to a table. How many tables were filled? How many were at the partially filled table?

_____ tables were filled.

_____ women were at the partially filled table.

5. There are 2125 employees at the McKee Plant. Each works 35 h a week. What is the total number of hours worked by these employees in one week?

The total number of hours is _____.

6. The population of Tomstown is 34 496 and the population of Janesburg is 28 574. How much greater is the population of Tomstown than the population of Janesburg?

The population is _____ greater.

7. A satellite is orbiting Earth at a speed of 28 580 km/h. At this rate, how many kilometres will the satellite travel in 1 min?

It will travel _____ km.

1.

2.

3.

4.

5.

6.

7.

Lesson 6 Addition and Subtraction (decimals)

When adding or subtracting decimals, write the decimals so the decimal points line up. Then, add or subtract as with whole numbers.

$\begin{array}{r} 26.94 \\ 45.836 \\ +32 \\ \hline \end{array}$	$\begin{array}{r} 26.940 \\ 45.836 \\ +32.000 \\ \hline 104.776 \end{array}$	<p>Write these 0s if they help you.</p>	$\begin{array}{r} 62.5 \\ -43.345 \\ \hline \end{array}$	$\begin{array}{r} 62.500 \\ -43.345 \\ \hline 19.155 \end{array}$	<p>Write these 0s if they help you.</p>
<p>The decimal point in the answer is directly below the other decimal points.</p>					

Add or subtract.

- | | <i>a</i> | <i>b</i> | <i>c</i> | <i>d</i> | <i>e</i> |
|----|---|---|---|---|--|
| 1. | $\begin{array}{r} 1.3 \\ +2.6 \\ \hline \end{array}$ | $\begin{array}{r} 57.6 \\ +3.8 \\ \hline \end{array}$ | $\begin{array}{r} 74.57 \\ +21.2 \\ \hline \end{array}$ | $\begin{array}{r} 18.5 \\ +17.36 \\ \hline \end{array}$ | $\begin{array}{r} 67.857 \\ +2.11 \\ \hline \end{array}$ |
| 2. | $\begin{array}{r} 4.7 \\ -3.2 \\ \hline \end{array}$ | $\begin{array}{r} 67.5 \\ -43.7 \\ \hline \end{array}$ | $\begin{array}{r} 87.58 \\ -34.1 \\ \hline \end{array}$ | $\begin{array}{r} 75.9 \\ -26.69 \\ \hline \end{array}$ | $\begin{array}{r} 87.52 \\ -12.403 \\ \hline \end{array}$ |
| 3. | $\begin{array}{r} 3.2 \\ 4.3 \\ +6.4 \\ \hline \end{array}$ | $\begin{array}{r} 52.7 \\ -26.9 \\ \hline \end{array}$ | $\begin{array}{r} 53.25 \\ 13.1 \\ +31.28 \\ \hline \end{array}$ | $\begin{array}{r} 64.3 \\ -25.56 \\ \hline \end{array}$ | $\begin{array}{r} 16.106 \\ 34.25 \\ +21.3 \\ \hline \end{array}$ |
| 4. | $\begin{array}{r} 47.34 \\ -13.76 \\ \hline \end{array}$ | $\begin{array}{r} 1.372 \\ 4.235 \\ +5.051 \\ \hline \end{array}$ | $\begin{array}{r} 25 \\ -1.435 \\ \hline \end{array}$ | $\begin{array}{r} 5.603 \\ 2.751 \\ +8.832 \\ \hline \end{array}$ | $\begin{array}{r} 31.423 \\ -12.83 \\ \hline \end{array}$ |
| 5. | $\begin{array}{r} 57.46 \\ 31.59 \\ 42.34 \\ +2.67 \\ \hline \end{array}$ | $\begin{array}{r} 5.708 \\ -1.439 \\ \hline \end{array}$ | $\begin{array}{r} 83.275 \\ 14.238 \\ 8.675 \\ +34.873 \\ \hline \end{array}$ | $\begin{array}{r} 48.003 \\ -13.746 \\ \hline \end{array}$ | $\begin{array}{r} 47.578 \\ 14.483 \\ 73.241 \\ +42.967 \\ \hline \end{array}$ |

Lesson 6 Problem Solving

Solve each problem.

1. The water level of the lake rose 0.85 m during March, 1.30 m during April, and 0.52 m during May. How much did the water level rise during these three months?

The water level rose _____ m.

2. In problem 1, how much more did the water level rise during April than during May?

It rose _____ m more during April.

3. Mr. Tadlock purchased a suit on sale for \$97.95 and an overcoat for \$87.50. What was the total cost of these articles?

The total cost was \$_____.

4. In problem 3, how much more did the suit cost than the overcoat?

The suit cost \$_____ more.

5. Last season a certain baseball player had a batting average of .285. This season his batting average is .313. How much has the player's batting average improved?

The player's average has improved by _____.

6. The thicknesses of three machine parts are 0.514 cm, 0.317 cm, and 0.178 cm. What is the combined thickness of the parts?

The combined thickness is _____ cm.

7. Ms. Dutcher's lot is 60.57 m long. Mr. Poole's lot is 54.73 m long. How much longer is Ms. Dutcher's lot than Mr. Poole's lot?

Ms. Dutcher's lot is _____ m longer.

8. Ms. Jolls purchased a dress for \$62.95, a pair of shoes for \$19, and a purse for \$11.49. What was the total amount of these purchases?

The total amount was \$_____.

1.

2.

3.

4.

5.

6.

7.

8.

Lesson 7 Multiplication (decimals)

number of digits to the right of the decimal point

$\begin{array}{r} 53.1 \\ \times 4 \\ \hline 212.4 \end{array}$	$\begin{array}{r} 1 \\ +0 \\ \hline 1 \end{array}$	$\begin{array}{r} 3.24 \\ \times 1.4 \\ \hline 1296 \\ 3240 \\ \hline 4.536 \end{array}$	$\begin{array}{r} 2 \\ +1 \\ \hline 3 \end{array}$	$\begin{array}{r} 4.21 \\ \times 0.47 \\ \hline 2947 \\ 16840 \\ \hline 1.9787 \end{array}$	$\begin{array}{r} 2 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 1.72 \\ \times 0.034 \\ \hline 688 \\ 5160 \\ \hline 0.05848 \end{array}$	$\begin{array}{r} 2 \\ +3 \\ \hline \end{array}$
---	--	--	--	---	--	---	--

Multiply.

- | | | | | | |
|----|---|---|---|---|--|
| | <i>a</i> | <i>b</i> | <i>c</i> | <i>d</i> | <i>e</i> |
| 1. | $\begin{array}{r} 32.5 \\ \times 5 \\ \hline \end{array}$ | $\begin{array}{r} 4.57 \\ \times 8 \\ \hline \end{array}$ | $\begin{array}{r} 672 \\ \times 0.4 \\ \hline \end{array}$ | $\begin{array}{r} 1678 \\ \times 0.07 \\ \hline \end{array}$ | $\begin{array}{r} 8.765 \\ \times 9 \\ \hline \end{array}$ |
| 2. | $\begin{array}{r} 31.4 \\ \times 0.09 \\ \hline \end{array}$ | $\begin{array}{r} 2.23 \\ \times 0.7 \\ \hline \end{array}$ | $\begin{array}{r} 417 \\ \times 0.009 \\ \hline \end{array}$ | $\begin{array}{r} 0.418 \\ \times 0.6 \\ \hline \end{array}$ | $\begin{array}{r} 167.8 \\ \times 0.008 \\ \hline \end{array}$ |
| 3. | $\begin{array}{r} 3.14 \\ \times 0.17 \\ \hline \end{array}$ | $\begin{array}{r} 67.4 \\ \times 6.7 \\ \hline \end{array}$ | $\begin{array}{r} 5.09 \\ \times 0.058 \\ \hline \end{array}$ | $\begin{array}{r} 0.724 \\ \times 0.46 \\ \hline \end{array}$ | $\begin{array}{r} 148.6 \\ \times 2.9 \\ \hline \end{array}$ |
| 4. | $\begin{array}{r} 65.7 \\ \times 0.648 \\ \hline \end{array}$ | $\begin{array}{r} 0.584 \\ \times 35.6 \\ \hline \end{array}$ | $\begin{array}{r} 69.2 \\ \times 4.63 \\ \hline \end{array}$ | $\begin{array}{r} 7.54 \\ \times 60.7 \\ \hline \end{array}$ | $\begin{array}{r} 2.408 \\ \times 5.69 \\ \hline \end{array}$ |
| 5. | $\begin{array}{r} 3.75 \\ \times 1.24 \\ \hline \end{array}$ | $\begin{array}{r} 3.14 \\ \times 0.526 \\ \hline \end{array}$ | $\begin{array}{r} 0.957 \\ \times 6.18 \\ \hline \end{array}$ | $\begin{array}{r} 3.27 \\ \times 4.38 \\ \hline \end{array}$ | $\begin{array}{r} 2.123 \\ \times 4.25 \\ \hline \end{array}$ |

Lesson 7 Problem Solving

Solve each problem.

1. Each case of batteries has a mass of 17.3 kg. What is the mass of six cases of batteries?

The mass is _____ kg.

2. 6.75 truckloads of ore can be processed each hour. At that rate, how many truckloads of ore can be processed during an 8-h period?

_____ truckloads of ore can be processed.

3. An article has a mass of 6.47 kg. What would be the mass of 24 such articles?

The mass would be _____ kg.

4. Mr. Swank's car averages 7.8 L of gasoline per 100 km. How many litres of gasoline would he need to drive 1300 km?

He would need _____ L of gasoline.

5. An industrial machine uses 4.75 L of fuel each hour. At that rate, how many litres of fuel will be used in 6.5 h?

_____ L of fuel will be used.

6. What would be the cost of a 6.2-kg roast at \$5.40 per kilogram?

The cost would be \$_____.

7. Each sheet of paper is 0.043 cm thick. What is the combined thickness of 25 sheets?

It is _____ cm.

8. Brittany runs 1.5 km each day. How far will she run in five days?

She will run _____ km.

1.

2.

3.

4.

5.

6.

7.

8.

Lesson 8 Division (decimals)

$0.73 \overline{)21.9}$	→ To get a whole number divisor, multiply both 0.73 and 21.9 by <u>100</u> .	→	$\begin{array}{r} 30 \\ 73 \overline{)2190} \\ \underline{2190} \\ 0 \\ 0 \\ 0 \end{array}$
			$\begin{array}{r} \text{shorter way} \\ 30 \\ 0.73 \overline{)21.90} \\ \underline{2190} \\ 0 \\ 0 \\ 0 \end{array}$

$0.059 \overline{)0.1357}$	→ To get a whole number divisor, multiply both 0.059 and 0.1357 by _____.	→	$\begin{array}{r} 2.3 \\ 59 \overline{)135.7} \\ \underline{1180} \\ 177 \\ \underline{177} \\ 0 \end{array}$
			$\begin{array}{r} \text{shorter way} \\ 2.3 \\ 0.059 \overline{)1.357} \\ \underline{1180} \\ 177 \\ \underline{177} \\ 0 \end{array}$

Divide.

- | <i>a</i> | <i>b</i> | <i>c</i> | <i>d</i> |
|-----------------------------|--------------------------|---------------------------|----------------------------|
| 1. $0.61 \overline{)3.05}$ | $9.1 \overline{)4.55}$ | $0.071 \overline{)0.639}$ | $1.37 \overline{)0.959}$ |
| 2. $0.37 \overline{)0.999}$ | $0.95 \overline{)76}$ | $0.026 \overline{)1.378}$ | $16.7 \overline{)2.004}$ |
| 3. $0.03 \overline{)0.798}$ | $0.08 \overline{)2.008}$ | $0.47 \overline{)9.729}$ | $25.3 \overline{)0.92851}$ |

Lesson 8 Problem Solving

Solve each problem.

1. A rope 40.8 m long is to be cut into four pieces of the same length. How long will each piece be?

Each piece will be _____ m long.

2. Each can of oil costs \$0.92. How many cans of oil can be purchased with \$23?

_____ cans of oil can be purchased.

3. A case of cans has a mass of 9.6 kg. Each can has a mass of 0.6 kg. How many cans are there?

There are _____ cans in the case.

4. Each sheet of paper is 0.016 cm thick. How many sheets will it take to make a stack of paper 18 cm high?

It will take _____ sheets.

5. Amy spent \$9.60 for meat. A kilogram of meat sells for \$2.40. How many kilograms did she buy?

She bought _____ kg.

6. A machine uses 0.75 L of fuel each hour. At that rate, how long will it take to use 22.5 L of fuel?

It will take _____ h.

7. Each corn flake has a mass of about 0.08 g. How many flakes will it take to have a mass of 20.4 grams?

It will take _____ corn flakes.

8. It takes a wheel 0.6 s to make a revolution. What part of a revolution will it make in 0.018 s?

The wheel will make _____ of a revolution.

1.

2.

3.

4.

5.

6.

7.

8.

CHAPTER 1 PRACTICE TEST

Whole Numbers/Decimals

NAME _____

Add or subtract.

$$\begin{array}{r}
 1. \quad a \\
 7684 \\
 584 \\
 +285 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 b \\
 79.86 \\
 12.49 \\
 +6.91 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 c \\
 86714 \\
 56811 \\
 +25648 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 d \\
 23.846 \\
 2.734 \\
 +45.8 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 2. \quad 89.01 \\
 -45.99 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 76321 \\
 -55344 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 4.612 \\
 -1.877 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 70001 \\
 -27689 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 3. \quad 2312 \\
 +5678 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 12.3 \\
 +4.8 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 16.01 \\
 -8.64 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 257.314 \\
 -151.276 \\
 \hline
 \end{array}$$

Multiply or divide.

$$\begin{array}{r}
 4. \quad 648 \\
 \times 21 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 2465 \\
 \times 546 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 46.2 \\
 \times 54.1 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 1.081 \\
 \times 0.013 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 5. \quad 478 \\
 \times 478 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 43.864 \\
 \times 0.261 \\
 \hline
 \end{array}$$

$$67 \overline{)15481}$$

$$99 \overline{)485}$$

$$6. \quad 23 \overline{)10764}$$

$$0.8 \overline{)6.32}$$

$$1.43 \overline{)9.867}$$

$$2.75 \overline{)0.33}$$

**GRADE 10 ESSENTIAL
UNIT X - REVIEW OF PRIOR GRADES
WHOLE NUMBERS AND DECIMALS
PURPLE PRISM WORKBOOK ANSWERS**

These answers have been checked for errors, but nevertheless there may be one or two errors

PRETEST

Reasonable success at this Pre-Test suggests you will likely only need to do a very few practice problems in the remaining lessons.

- 1a. 12,078 b. 39.7 c. 276,132 d. 58.31
e. 210.333
- 2a. 1,862 b. 54.78 c. 394,637 d. 7.194
e. 744
- 3a. 3,443 b. 5.6 c. 462,506 d. 9.45
e. 281.693
- 4a. 3,432 b. 780,912 c. 77.904 d. 43.1277
- 5a. 1,032,934 b. 553.466 c. 321 d. 13 R26
- 6a. 22R2 b. 165 c. 610 d. 2.46

PRETEST PROBLEM SOLVE

1. 6,193.50 2. 113,945 3. 120,138.50
4. 4,636 5. 316

LESSON 1 (Addition of Whole Numbers)

- 1a. 37 b. 297 c. 5,636 d. 47,539 e. 653,635
- 2a. 76 b. 675 c. 6,683 d. 86,745 e. 888,985
- 3a. 177 b. 898 c. 7,917 d. 87,864 e. 868,852
- 4a. 243 b. 2,887 c. 9,820 d. 99,146 e. 901,209
- 5a. 308 b. 3,049 c. 24,572 d. 127,840 e. 1,585,881
- 6a. b. c. d. e.

LESSON 1 PROBLEM SOLVING

1. 3,187 books 2. 506 pieces 3. \$633,408
4. 394 km 5. 935 km 6. \$73 7. 25,862 km

LESSON 2 – SUBTRACTION (Whole Numbers)

- 1a. 31 b. 311 c. 4,111 d. 14,411 e. 301,336
 2a. 45 b. 616 c. 5,341 d. 73,531 e. 451,261
 3a. 21 b. 809 c. 4,625 d. 47,329 e. 181,109
 4a. 19 b. 451 c. 3,791 d. 11,571 e. 345,087
 5a. 38 b. 386 c. 111 d. 64,851 e. 353,765
 6a. 18 b. 308 c. 5,058 d. 52,547 e. 482,811
 7a. 54 b. 413 c. 5,867 d. 37,835 e. 185,989

LESSON 2 – PROBLEM SOLVING

1. 5,588 more people 2. \$958 more
 3. \$1 more 4. 368 more 5. 202 km more
 6. \$30 7. 32 more

LESSON 3 – MULTIPLICATION (Whole Numbers)

- 1a. 252 b. 864 c. 4,753 d. 6,936 e. 60,784
 2a. 1,360 b. 23,800 c. 9,116 d. 110,080
 e. 272,182
 3a. 682,000 b. 68,160 c. 85,436 d. 441,168
 e. 3,983,250
 4a. 298,200 b. 597,550 c. 403,300 d. 7,484,059
 e. 6,506,203

LESSON 3 – WORD PROBLEMS

1. 627 band members 2. 12,376 kg
 3. 3,135 stirrers 4. 235 km
 5. \$5 6. \$42 7. \$133

LESSON 4 – DIVISION (Whole Numbers) (Quotient and Remainder)

- 1a. 76 R3 b. 8 R31 c. 12 d. 7 R114
 e. 5 R249
 2a. 203 R4 b. 25 R32 c. 120 R65 d. 14 R1
 e. 19 R498
 3a. 6,254 b. 151 R43 c. 2,285 R31 d. 102 R16
 e. 257 R139

LESSON 4 - PROBLEM SOLVING

- | | | |
|-------------|---------------|---------------|
| 1. \$60 | 2. 6 packages | 3. 19 rafts |
| 4. \$42 | 5. 20 boxes | 6. 11 bottles |
| 7. 12 boxes | | |

LESSON 5 – PROBLEM SOLVING

- | | | |
|----------------------------------|------------------|-------------|
| 1. 806 flyers | 2. 93 more goals | 3. 1400 km |
| 4. 82 bricks | 5. 1,125 kg less | 6. 7,920 kg |
| 7. 723 boxes; 18 items left over | | |

LESSON 5 - PROBLEM SOLVING

- | | |
|---------------------|------------------|
| 1. 419 more members | 2. 13,125 kg |
| 3. 21,587 km | 4. 146 tables |
| 5. 74,375 hours | 6. 5,922 greater |
| 7. 476.333333333 km | |

LESSON 6 – ADDITION AND SUBTRACTION (Decimal numbers)

- | | | | | |
|------------|-----------|------------|-----------|------------|
| 1a. 3.9 | b. 61.4 | c. 95.77 | d. 35.86 | e. 69.967 |
| 2a. 1.5 | b. 23.8 | c. 53.48 | d. 49.21 | e. 75.117 |
| 3a. 13.9 | b. 25.8 | c. 97.63 | d. 38.74 | e. 71.656 |
| 4a. 33.58 | b. 10.658 | c. 23.565 | d. 17.186 | e. 18.593 |
| 5a. 134.06 | b. 4.269 | c. 141.061 | d. 34.257 | e. 178.269 |

LESSON 6 – PROBLEM SOLVING

- | | | |
|------------|---------------------|-------------|
| 1. 2.67 m | 2. 0.78 mteres more | 3. \$185.45 |
| 4. \$10.45 | 5. 0.028 | 6. 1.009 cm |
| 7. 5.84 m | 8. \$93.44 | |

LESSON 7 – MULTIPLICATION (decimals)

- | | | | | |
|-------------|------------|------------|------------|-------------|
| 1a. 162.5 | b. 36.56 | c. 268.8 | d. 117.46 | e. 78.885 |
| 2a. 2.826 | b. 1.561 | c. 3.753 | d. 0.2508 | e. 1.3424 |
| 3a. 0.5338 | b. 451.58 | c. 0.29522 | d. 0.33304 | e. 430.94 |
| 4a. 42.5736 | b. 20.7904 | c. 320.396 | d. 457.678 | e. 13.70152 |
| 5a. 4.65 | b. 1.65164 | c. 5.91426 | d. 14.3226 | e. 9.02275 |

LESSON 7 - PROBLEM SOLVING

- | | | |
|-------------|------------------|--------------|
| 1. 103.8 kg | 2. 54 truckloads | 3. 155.28 kg |
| 4. 101.4 L | 5. 30.875 L | 6. \$33.48 |
| 7. 1.075 cm | 8. 7.5 km | |

LESSON 8 – DIVISION (with Decimal Numbers)

- | | | | |
|----------|---------|---------|-----------|
| 1a. 5 | b. 0.5 | c. 9 | d. 0.7 |
| 2a. 2.7 | b. 80 | c. 53 | d. 0.12 |
| 3a. 26.6 | b. 25.1 | c. 20.7 | d. 0.0367 |

LESSON 8 - Problem Solving

- | | | |
|--------------------|-------------------------|-------------|
| 1. 10.2 m long | 2. 25 cans | 3. 16 cans |
| 4. 1,125 sheets | 5. 4 kg | 6. 30 hours |
| 7. 255 corn flakes | 8. 0.03 of a revolution | |

PRACTICE TEST

- | | | | |
|-------------|------------------|--------------------------|-------------|
| 1a. 8,853 | b. 99.26 | c. 169,173 | d. 72.386 |
| 2a. 43.02 | b. 20,977 | c. 2.735 | d. 42,312 |
| 3a. 7,990 | b. 17.1 | c. 7.37 | d. 106.038 |
| 4a. 13,608 | b. 1,345,890 | c. 2,499.42 | d. 0.014053 |
| 5a. 228,484 | b. 11.448504 | c. 231.0597015 or 231 R4 | |
| | d. 4.89 or 4 R89 | | |
| 6a. 468 | b. 7.9 | c. 6.9 | d. 0.12 |