

Changing Decimals to Fractions

Both decimals and fractions can be used to show part of a whole. Sometimes it is easier to calculate using fractions. At other times, decimals are more useful. If you know how to change from one form to the other, you can solve any problem using the form that is best for the situation.

Example 1 Josh is solving a problem using a calculator. The calculator display reads 0.375, but he needs to write the answer in the form of a fraction. Change 0.375 to a fraction.

- Step 1** Write the number without the decimal point as the numerator of the fraction. $0.375 = \frac{375}{?}$
- Step 2** Write the place value for the last decimal digit as the denominator. $0.375 = \frac{375}{1000}$
- Step 3** Reduce the fraction to lowest terms. $\frac{375 \div 125}{1000 \div 125} = \frac{3}{8}$
- The decimal 0.375 is equal to the fraction $\frac{3}{8}$.

As you work with money, you will sometimes see decimals with a fraction part. This combination is commonly found as a **unit price**, the cost of one item or unit.

Example 2 On a grocery store shelf, Rita reads that the price per ounce for a brand of shampoo is $\$0.33\frac{1}{3}$. What fraction of a dollar is the unit price?

- Step 1** Write the fraction as you did in the example above. $0.33\frac{1}{3} = \frac{33\frac{1}{3}}{100}$
- Step 2** In your work with improper fractions, you learned that the fraction bar indicates division. $\frac{33\frac{1}{3}}{100}$ means $33\frac{1}{3} \div 100$
- Step 3** Use the rules for dividing mixed numbers. Change both numbers to improper fractions, invert the number you are dividing by, and multiply.

$$33\frac{1}{3} \div 100 = \frac{100}{3} \div \frac{100}{1} = \frac{100}{3} \times \frac{1}{100} = \frac{1}{3}$$

The unit price is $\frac{1}{3}$ of a dollar.

TIP

To find the number of zeros you need in the denominator of a fraction, count the number of decimal places in the decimal you are converting. For example:

$$0.375 = \frac{375}{1000}$$

3 decimal places 3 zeros

GED SKILL FOCUS

A. Change these decimals to fractions. Reduce all fractions to lowest terms.

1. $0.25 =$

7. $0.128 =$

13. $0.26\frac{2}{3} =$

2. $0.4 =$

8. $0.05 =$

14. $0.06\frac{2}{3} =$

3. $0.35 =$

9. $0.31\frac{1}{4} =$

15. $0.23\frac{3}{4} =$

4. $0.875 =$

10. $0.08\frac{1}{3} =$

16. $0.08\frac{1}{6} =$

5. $0.8 =$

11. $0.46\frac{2}{3} =$

17. $0.10\frac{5}{6} =$

6. $0.76 =$

12. $0.93\frac{3}{4} =$

18. $0.12\frac{3}{4} =$



B. For each calculator display, write the decimal in fraction form. Then reduce each fraction to lowest terms if needed.

19. $0.9 = \frac{?}{10}$

22. $0.125 =$

20. $0.625 =$

23. $0.55 =$

21. $0.28 =$

24. $0.3125 =$

C. Solve. Simplify your answers. Remember to change all mixed numbers to improper fractions.

25. A brand of raspberry jam costs $\$0.43\frac{3}{4}$ per ounce. What fraction of a dollar is the unit price?

27. The unit price of a bagel is $37\frac{1}{2}$ cents. What fraction of a dollar is the unit price?

26. A brand of frozen drink concentrate is $\$0.16\frac{2}{3}$ per ounce of concentrate. Write the unit price as a fraction.

28. A company announces a unit price increase of $\$0.02\frac{1}{2}$ per pound. Write the decimal as a fraction.

Answers start on page 393.

Changing Fractions to Decimals

To solve some problems, you may need to change a fraction to a decimal. To do so, you perform the division indicated by the fraction bar.

Example 1 Change $\frac{2}{5}$ to a decimal.

Step 1 Divide the numerator by the denominator: $5 \overline{)2}$

Step 2 Set the decimal point in the answer directly above the decimal point in the problem. Add zeros and continue dividing until the remainder is zero, or until you reach the desired number of decimal places. $5 \overline{)2.0}$
 $\underline{20}$

The fraction $\frac{2}{5}$ equals the decimal **0.4**.

A few fractions have decimal equivalents that contain a digit or group of digits that repeats. Round **repeating decimals** to a certain decimal place or express the remainder as a fraction.

Example 2 Change $\frac{2}{9}$ to a decimal. Show the answer to the hundredths place with the remainder expressed as a fraction.

Step 1 Divide the numerator by the denominator: $9 \overline{)2}$

Step 2 You can see that the division will continue repeating because the subtraction is the same each time. Write the remainder as a fraction by writing the remainder, 2, over the divisor, 9. $9 \overline{)2.00}$
 $\underline{18}$
 20
 $\underline{18}$

The fraction $\frac{2}{9}$ equals the decimal **0.22 $\frac{2}{9}$** .

As you may know, a unit price is often stated as a decimal with a fraction. The fraction expresses part of one cent.

Example 3 The unit price of a brand of fruit punch is $8\frac{1}{2}$ cents per ounce. What is the cost of 32 ounces of the punch?

Multiply 32 by $8\frac{1}{2}$ or $\$0.08\frac{1}{2}$ to solve the problem. 32
 Change the fraction part of the decimal to a decimal digit. The fraction $\frac{1}{2}$ converts to $\times 0.085$
 0.5 ($1 \div 2 = 0.5$). So $8\frac{1}{2}$ cents can be written 160
 as 8.5 cents or $\$0.085$. Multiply. $+2560$
 $\underline{2.720}$

The cost of 32 ounces of fruit punch is **\$2.72**.

Example 4 What is the cost per pound of a 20-pound bag of dog food that sells for \$12.75?

Divide \$12.75 by 20 to two decimal places. $20 \overline{)12.75}$
 Write the remainder as a fraction and reduce $\underline{120}$
 to lowest terms. $\frac{15}{20} = \frac{3}{4}$ 75
 $\underline{60}$
 15

The unit price of one pound of dog food is **$63\frac{3}{4}$ cents**.



If you prefer working with fractions, multiply 32 by $8\frac{1}{2}$. Then express your answer as 2 dollars and 72 cents. Always choose a method for solving a problem that makes the most sense to you.

GED SKILL FOCUS

A. Change these fractions to decimals. Round to three decimal places.

1. $\frac{4}{5} =$

5. $\frac{11}{20} =$

9. $\frac{3}{5} =$

2. $\frac{3}{8} =$

6. $\frac{5}{8} =$

10. $\frac{7}{25} =$

3. $\frac{2}{3} =$

7. $\frac{17}{40} =$

11. $\frac{7}{10} =$

4. $\frac{5}{12} =$

8. $\frac{3}{4} =$

12. $\frac{1}{8} =$

B. Change these fractions to decimals. Divide to two decimal places and write the remainder as a fraction.

13. $\frac{5}{6} =$

16. $\frac{1}{16} =$

14. $\frac{8}{9} =$

17. $\frac{3}{11} =$

15. $\frac{7}{15} =$

18. $\frac{1}{3} =$

C. Solve.

19. An all-purpose cleaner costs $10\frac{3}{4}$ cents per ounce. What is the cost of a 32-ounce bottle?

20. A breakfast cereal costing \$4.23 contains 18 servings per box. What is the cost of 1 serving?

21. A store sells two brands of masking tape. Brand A comes in 50-yard rolls and sells for \$2.70. Brand B comes in 60-yard rolls and sells for \$3.18. Which brand has the best price per yard?

22. A brand of hot cereal costs $6\frac{1}{2}$ cents per serving. What is the price of a box containing 24 servings?

23. A 28-ounce jar of Zesty spaghetti sauce costs \$2.59. The store brand comes in a 26-ounce jar and sells for \$2.47. Find the price per ounce for each brand. Which is the better buy?

24. A brand of peanut butter costs $13\frac{1}{4}$ cents per ounce. What is the cost of a 16-ounce jar?

Answers start on page 394.

Using Decimals and Fractions with a Standard Grid

When using the standard grid shown below to write decimal or fractional answers, you may choose the form of your answer. You may write your answer either as a decimal or as a fraction. Both forms will be marked correct. For example, if you get the fractional answer $\frac{3}{4}$, you may enter either the fraction or the decimal 0.75 on the grid. The reverse is also true. An answer of 0.5 could be entered as either .5 (without the zero) or $\frac{1}{2}$.

Here are some important points to keep in mind when using the standard grid with decimals or fractions:

	/	/	/	
.
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

- The grid is used to enter a single answer.
- Your answer can start in any of the five columns, as long as your answer is complete. Any unused columns should be left blank.
- Write your answer in the blank row at the top of the grid. Use this as a guide to filling in the "bubble" rows.
- If you express the answer as a decimal, fill in the whole number part of the answer, then the decimal point in the third row of the grid, then the decimal.
- If you express the answer as a fraction, fill in the numerator of the fraction, then the fraction bar in the second row of the grid, $(/)$, and then the denominator of the fraction.
- Mixed fractions cannot be entered on the grid. Therefore, change a mixed fraction to either a decimal or an improper fraction.

Example In a recent election, Felicia received $\frac{3}{8}$ of the vote, Steve received 0.5 of the vote, and Bill received the rest. What fraction of the votes did Bill receive?

Together, Felicia and Steve received $\frac{3}{8} + 0.5 = \frac{3}{8} + \frac{1}{2} = \frac{7}{8}$ of the vote. Therefore, Bill received $1 - \frac{7}{8} = \frac{1}{8}$ of the vote. Note that since the answer can be entered on the grid either as the fraction $\frac{1}{8}$ or its equivalent decimal 0.125, all the grids shown below are filled in correctly.

1	/	8		
.
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

	1	/	8	
.
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

		1	/	8
.
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

.	1	2	5	
.
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

	.	1	2	5
.
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

GED PRACTICE

Directions: Solve the following problems and enter your answers on the grids provided.

1. Jim runs $2\frac{1}{4}$ miles on Monday, 1.5 miles on Tuesday, and $3\frac{3}{4}$ miles on Wednesday. How many total miles did Jim run in the 3 days?

	/	/	/	
.
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

3. A can of green beans contains $40\frac{1}{2}$ ounces. If one serving is 3.75 ounces, how many servings are in 1 can?

	/	/	/	
.
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

2. If gasoline sells for \$1.25 per gallon, how much would $3\frac{3}{5}$ gallons cost? Express your answer as a decimal.

	/	/	/	
.
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

4. Ho Chin has a board that is 9.375 feet long. If Ho Chin cuts off a piece that is $3\frac{1}{8}$ feet long, how many feet are left of the original board?

	/	/	/	
.
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

TIP If the answer you need to enter on a grid contains an end zero after the decimal point, you can include it or leave it off. For example, 1.20 could be correctly filled in as 1.20 or 1.2.

TIP Questions involving both fractions and decimals may ask for the answer to be in a certain form. Be sure your answer is in the form asked for, as either a fraction or a decimal.

Answers start on page 395.

GED STRATEGY Using Your Calculator

Fractions and Decimals

Most calculators use only decimal numbers and whole numbers. Even whole numbers entered in a calculator usually appear with a decimal point after the ones place. For example, 32 entered on a calculator would probably be displayed as 32. with a decimal point. When using a calculator, you need to change a fraction to a decimal, for example, $\frac{3}{4}$ to 0.75.

Here are some important points to keep in mind when using fractions and decimals on the calculator.

- To change a fraction to a decimal, divide the numerator by the denominator.
Example Change $\frac{3}{8}$ to a decimal by dividing 3 by 8 = 0.375.
- When working with a mixed number on a calculator, leave the whole number part as it is and change only the fraction to a decimal.
Example $17\frac{1}{2}$ would become 17.5.
- All decimals that do not contain a whole number part will be displayed with a 0 as the whole number part, even if you do not key in a 0.
Example The decimal .64, when keyed in, will appear as 0.64.
- When working with decimals, you do not need to key in zeros that are to the right of the last digit in the decimal part of the number.
Example 24.600 can be keyed in as 24.6.

Example Sam bought a laptop computer for \$1620 and made a down payment of $\frac{1}{4}$ of the cost. How much was the down payment?

- (1) \$ 25.00
- (2) \$ 40.00
- (3) \$ 64.80
- (4) \$ 405.00
- (5) \$1595.00

Since the problem asks you to find $\frac{1}{4}$ of \$1620, you need to multiply. To do this problem on a calculator, you could change $\frac{1}{4}$ to .25. Then you would press the calculator keys in the sequence shown below.



Since $\frac{1}{4}$ also means 1 divided by 4, you could also use either of these sequences:

.25 \times 1620 $=$ or 1 \div 4 \times 1620 $=$

You should see the answer 405 in the display. **Option (4) \$405** is correct.

GED PRACTICE



Directions: Choose the one best answer to each item. You MAY use your calculator.

- Carolyn rode her bike 26.8 miles on Thursday, $14\frac{3}{8}$ miles on Friday, and $27\frac{3}{4}$ miles on Saturday. How many miles did she ride in all for the 3 days?
 - 26.825
 - 67.05
 - 67.825
 - 68.925
 - 80.4
- During a recent storm, snow fell at the rate of 1.24 inches per hour. At this rate, how many inches of snow would fall in $6\frac{1}{4}$ hours?
 - $5\frac{1}{10}$
 - $5\frac{2}{5}$
 - $7\frac{1}{4}$
 - $7\frac{61}{100}$
 - $7\frac{3}{4}$
- Michael is paid at the rate of \$9.50 per hour for the first 40 hours worked in a week, and $1\frac{1}{2}$ times that rate for all hours over 40. If he works for $52\frac{1}{4}$ hours in 1 week, what is his gross pay, rounded to the nearest cent?
 - \$550.56
 - \$552.56
 - \$554.56
 - \$557.56
 - \$560.56
- If gasoline sells for \$1.39 per gallon, how much would $16\frac{1}{8}$ gallons cost, rounded to the nearest cent?
 - \$31.12
 - \$22.49
 - \$22.41
 - \$22.24
 - \$11.60

Questions 5 and 6 refer to the following table.

Miles Jogged	
Alicia	4.875
Brett	$3\frac{3}{5}$
Krystyna	$4\frac{3}{4}$

- How many more miles did Alicia jog than Brett did?
 - 1.275
 - 1.375
 - 1.400
 - 1.500
 - 1.575
- What was the total number of miles jogged by the three people listed?
 - 13.525
 - 13.425
 - 13.325
 - 13.225
 - 13.125

Answers start on page 395.

GED Mini-Test • Lessons 8–10

Directions: This is a 30-minute practice test. After 30 minutes, mark the last item you finished. Then complete the test and check your answers. If most of your answers are correct, but you didn't finish, try to work faster next time.



Part 1

Directions: Choose the one best answer to each question. You MAY use your calculator.

- Which of the following decimals has the same value as the fraction $\frac{3}{7}$, rounded to the nearest hundredth?
 - 0.04
 - 0.42
 - 0.43
 - 0.44
 - 0.45
- For the first five months of the year Menchu had electric bills of \$64.16, \$78.92, \$63.94, \$50.17, and \$42.87. What was the total amount of these bills?
 - \$287.86
 - \$298.06
 - \$299.06
 - \$300.06
 - Not enough information is given.
- Stuart purchased three items at Rite Pharmacy priced at \$17.60, \$9.25, and \$3.68. If the tax was \$2.40, and he gave the salesperson a \$50 bill, how much change did he receive?
 - \$17.07
 - \$17.93
 - \$18.07
 - \$18.93
 - \$19.07
- Marilyn had a checking account balance of \$528.60. If she made deposits of \$45.24, \$17.50, and \$67.45, and wrote checks for \$412.72 and \$53.19, what was the balance in her account after these transactions?
 - \$ 67.50
 - \$192.88
 - \$406.88
 - \$492.88
 - \$558.79
- Last year Jing drove 28,606.8 miles and used 1,538 gallons of gasoline. How many miles per gallon of gasoline did he average?
 - 20.6
 - 19.2
 - 18.6
 - 18.4
 - 17.8
- An insurance policy costs \$6.87 for every \$1,500 of insurance. At this rate, what would a \$25,000 insurance policy cost, rounded to the nearest dollar?
 - \$ 17
 - \$ 115
 - \$ 218
 - \$1,145
 - \$3,639

Questions 7 and 8 refer to the following table.

Clarkson's Computer Supplies Sales Receipt		
Item	Quantity	Unit Price
Boxes of Computer Disks	65	\$7.95
Reams of Paper	25	\$3.75
Printer Cartridges	30	\$14.85

7. What was the total amount paid for the reams of paper?

- (1) \$ 90.75
- (2) \$ 93.75
- (3) \$ 96.75
- (4) \$ 99.75
- (5) \$102.75

8. How much more was paid for the boxes of computer disks than for the printer cartridges?

- (1) \$75.25
- (2) \$74.25
- (3) \$73.25
- (4) \$72.25
- (5) \$71.25

9. Millie went on a $32\frac{1}{2}$ mile hike that took three days. If she hiked 10.6 miles the first day and $11\frac{7}{8}$ miles the second day, how many miles did she hike on the third day?

- (1) 10.025
- (2) 10.250
- (3) 12.025
- (4) 15.275
- (5) Not enough information is given.

10. A plant grows at the rate of $3\frac{1}{4}$ inches per week. At this rate, how many weeks will it take the plant to grow 16.25 inches?

- (1) 4.5
- (2) 5.0
- (3) 5.5
- (4) 6.0
- (5) 6.5

Questions 11 and 12 refer to the following information.

William earns a gross annual salary of \$34,000. He budgets $\frac{3}{8}$ of this amount for taxes and 0.25 for food.

11. How much more does William budget for taxes than for food?

- (1) \$ 425
- (2) \$ 850
- (3) \$ 4,250
- (4) \$ 8,500
- (5) \$12,750

12. After budgeting for taxes and food, what fraction of William's gross annual salary is left to budget for other items?

- (1) $\frac{1}{4}$
- (2) $\frac{3}{8}$
- (3) $\frac{1}{2}$
- (4) $\frac{5}{8}$
- (5) $\frac{7}{8}$

Part 2

Directions: Choose the one best answer to each item. You may NOT use your calculator.

13. Which of the following represents the number written as “23 and 37 thousandths?”

- (1) 23.370
- (2) 23.037
- (3) 2.337
- (4) 0.237
- (5) 0.2337

14. Which of the following is the value of 2.1374 rounded to the nearest hundredth?

- (1) 2.10
- (2) 2.13
- (3) 2.14
- (4) 2.17
- (5) 2.20

15. John paid \$1224.96 in 12 equal monthly installments. Estimate the amount of each monthly installment.

- (1) \$1200
- (2) \$1000
- (3) \$ 120
- (4) \$ 100
- (5) \$ 12

16. Yaffa has \$175. She spends \$54.25 and \$30.50. Which of the following expressions shows how much money Yaffa has left after the two purchases?

- (1) $\$175 + \$54.25 + \$30.50$
- (2) $\$175 - (\$54.25 + \$30.50)$
- (3) $(\$175 + \$54.25) - (\$175 + \$30.50)$
- (4) $\$175 + \$54.25 - \$30.50$
- (5) $\$175 - \$54.25 + \$30.50$

Questions 17 through 19 refer to the following table.

Paul's Plants Price List	
3-inch Potted Plant	\$1.79
4-inch Potted Plant	\$2.89
5-inch Potted Plant	\$3.69
Bag of Potting Soil	\$3.19
Watering Can	\$1.89

17. What is the greatest number of 3-inch potted plants that Mohammed can buy with \$10?

- (1) 2
- (2) 3
- (3) 5
- (4) 8
- (5) 10

18. Anya buys two 5-inch potted plants and one watering can. What is the greatest number of 4-inch potted plants she can buy so that the total cost is less than \$20?

- (1) 2
- (2) 3
- (3) 5
- (4) 8
- (5) 10

19. Roberto buys two bags of potting soil and one 5-inch potted plant. Approximately how much change should he receive from \$15?

- (1) \$ 2
- (2) \$ 3
- (3) \$ 5
- (4) \$10
- (5) \$15

20. Atlas Gas charges \$1.25 per gallon of gas and Bradley Gas charges \$1.29 per gallon. Which expression shows how much more 14 gallons of gas would cost at Bradley Gas than at Atlas Gas?

- (1) $14 + \$1.25 + \1.29
- (2) $14 - \$1.25 - \1.29
- (3) $14(\$1.29 + \$1.25)$
- (4) $14(\$1.29 - \$1.25)$
- (5) $14(\$1.29 \times \$1.25)$

21. How much would 2.6 pounds of Swiss cheese cost at \$4.85 per pound?

- (1) \$ 1.26
- (2) \$ 1.87
- (3) \$12.61
- (4) \$13.61
- (5) \$18.70

22. A package of ground sirloin costs \$8.24. If the price per pound is \$3.45, how many pounds of ground sirloin are in the package, rounded to the nearest tenth of a pound?

- (1) 2.3
- (2) 2.4
- (3) 2.5
- (4) 2.6
- (5) 2.7

23. Marcos earns a gross monthly salary of \$2383.20. If his monthly mortgage is $\frac{1}{5}$ of this amount, about how much does he pay each month for his mortgage?

- (1) \$12,000
- (2) \$ 4,800
- (3) \$ 1,200
- (4) \$ 480
- (5) \$ 120

24. Fabrice is paid \$7.90 per hour for the first 35 hours of work in a week, and $1\frac{1}{2}$ times that rate for all hours over 35. What is his gross weekly pay?

- (1) \$154.05
- (2) \$276.50
- (3) \$379.20
- (4) \$430.55
- (5) Not enough information is given.

Questions 25 and 26 refer to the following table.

Price per Share (\$) Year to Date		
Stock	High	Low
Ampex	$24\frac{1}{4}$	$18\frac{1}{2}$
Intex	$36\frac{1}{2}$	$29\frac{3}{4}$
Microx	$28\frac{3}{8}$	$24\frac{1}{4}$

25. What was the difference between the high value and the low value of Microx stock?

- (1) 4
- (2) $4\frac{1}{8}$
- (3) $4\frac{1}{4}$
- (4) $4\frac{1}{2}$
- (5) $4\frac{3}{4}$

26. Which expression shows how much 30 shares of Ampex stock and 40 shares of Intex stock would be worth, if they were both at their high prices?

- (1) $30\left(24\frac{1}{4}\right) + 40\left(18\frac{1}{2}\right)$
- (2) $40\left(24\frac{1}{4}\right) - 30\left(18\frac{1}{2}\right)$
- (3) $30\left(24\frac{1}{4}\right) + 40\left(36\frac{1}{2}\right)$
- (4) $40\left(24\frac{1}{4}\right) - 30\left(36\frac{1}{2}\right)$
- (5) $30\left(36\frac{1}{2}\right) + 40\left(18\frac{1}{2}\right)$

Answers start on page 396.

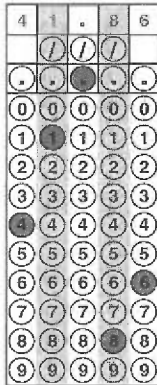
2. **0.065** Subtract to find the difference.
 $.340 - .275 = .065$



3. **50** Divide to find the number of equally sized pieces.
 $60 \div 1.2 = 50$



4. **\$41.86** Multiply the number of parts by the cost per part.
 $12.99 \times 4 = \$41.86$



Lesson 10

GED Skill Focus (Page 121)

1. $\frac{1}{4}$ Write 25 over 100 and reduce to lowest terms.

$$\frac{25 \div 25 = 1}{100 \div 25 = 4}$$

2. $\frac{2}{5}$ Write 4 over 10 and reduce to lowest terms.

$$\frac{4 \div 2 = 2}{10 \div 2 = 5}$$

3. $\frac{7}{20}$ Write 35 over 100 and reduce to lowest terms.

$$\frac{35 \div 5 = 7}{100 \div 5 = 20}$$

4. $\frac{7}{8}$ Write 875 over 1000 and reduce to lowest terms.

$$\frac{875 \div 125 = 7}{1000 \div 125 = 8}$$

5. $\frac{4}{5}$ Write 8 over 10 and reduce to lowest terms.

$$\frac{8 \div 2 = 4}{10 \div 2 = 5}$$

6. $\frac{19}{25}$ Write 76 over 100 and reduce to lowest terms.

$$\frac{76 \div 4 = 19}{100 \div 4 = 25}$$

7. $\frac{16}{125}$ Write 128 over 1000 and reduce to lowest terms.

$$\frac{128 \div 8 = 16}{1000 \div 8 = 125}$$

8. $\frac{1}{20}$ Write 5 over 100 and reduce to lowest terms.

$$\frac{5 \div 5 = 1}{100 \div 5 = 20}$$

9. $\frac{5}{16}$ $\frac{31\frac{1}{4}}{100} = 31\frac{1}{4} \div 100 = \frac{125}{4} \times \frac{1}{100} = \frac{5}{16}$

10. $\frac{1}{12}$ $\frac{8\frac{1}{3}}{100} = 8\frac{1}{3} \div 100 = \frac{25}{3} \times \frac{1}{100} = \frac{1}{12}$

11. $\frac{7}{15}$ $\frac{46\frac{2}{3}}{100} = 46\frac{2}{3} \div 100 = \frac{140}{3} \times \frac{1}{100} = \frac{7}{15}$

12. $\frac{15}{16}$ $\frac{93\frac{3}{4}}{100} = 93\frac{3}{4} \div 100 = \frac{375}{4} \times \frac{1}{100} = \frac{15}{16}$

13. $\frac{4}{15}$ $\frac{26\frac{2}{3}}{100} = 26\frac{2}{3} \div 100 = \frac{80}{3} \times \frac{1}{100} = \frac{4}{15}$

14. $\frac{1}{15}$ $\frac{6\frac{2}{3}}{100} = 6\frac{2}{3} \div 100 = \frac{20}{3} \times \frac{1}{100} = \frac{1}{15}$

15. $\frac{19}{80}$ $\frac{23\frac{3}{4}}{100} = 23\frac{3}{4} \div 100 = \frac{95}{4} \times \frac{1}{100} = \frac{19}{80}$

16. $\frac{49}{600}$ $\frac{8\frac{1}{6}}{100} = 8\frac{1}{6} \div 100 = \frac{49}{6} \times \frac{1}{100} = \frac{49}{600}$

17. $\frac{13}{120}$ $\frac{10\frac{5}{6}}{100} = 10\frac{5}{6} \div 100 = \frac{65}{6} \times \frac{1}{100} = \frac{13}{120}$

18. $\frac{51}{400}$ $\frac{12\frac{3}{4}}{100} = 12\frac{3}{4} \div 100 = \frac{51}{4} \times \frac{1}{100} = \frac{51}{400}$

19. $\frac{9}{10}$ Write 9 over the 10. The fraction is reduced to lowest terms.

20. $\frac{5}{8}$ Write 625 over 1000 and reduce to lowest terms.

$$\frac{625 \div 125 = 5}{1000 \div 125 = 8}$$

21. $\frac{7}{25}$ Write 28 over 100 and reduce to lowest terms.

$$\frac{28 \div 4}{100 \div 4} = \frac{7}{25}$$

22. $\frac{1}{8}$ Write 125 over 1000 and reduce to lowest terms.

$$\frac{125 \div 125}{1000 \div 125} = \frac{1}{8}$$

23. $\frac{11}{20}$ Write 55 over 100 and reduce to lowest terms.

$$\frac{55 \div 5}{100 \div 5} = \frac{11}{20}$$

24. $\frac{5}{16}$ Write 3,125 over 10,000 and reduce to lowest terms.

$$\frac{3,125 \div 625}{10,000 \div 625} = \frac{5}{16}$$

25. $\frac{7}{16}$ $43\frac{3}{4} \div 100 = \frac{175}{4} \div \frac{100}{1} = \frac{175}{4} \times \frac{1}{100} = \frac{7}{16}$

26. $\frac{1}{6}$ $16\frac{2}{3} \div 100 = \frac{50}{3} \div \frac{100}{1} = \frac{50}{3} \times \frac{1}{100} = \frac{1}{6}$

27. $\frac{3}{8}$ $37\frac{1}{2} \div 100 = \frac{75}{2} \div \frac{100}{1} = \frac{75}{2} \times \frac{1}{100} = \frac{3}{8}$

28. $\frac{1}{40}$ $2\frac{1}{2} \div 100 = \frac{5}{2} \div \frac{100}{1} = \frac{5}{2} \times \frac{1}{100} = \frac{1}{40}$

GED Skill Focus (Page 123)

1. **0.8** Divide 4 by 5.

$$\begin{array}{r} 0.8 \\ 5 \overline{)4.0} \\ \underline{40} \end{array}$$

2. **0.375** Divide 3 by 8.

$$\begin{array}{r} 0.375 \\ 8 \overline{)3.000} \\ \underline{24} \\ 60 \\ \underline{56} \\ 40 \\ \underline{40} \end{array}$$

3. **0.667** Divide 2 by 3. Divide to four decimal places and round to the thousandths place.

$$\begin{array}{r} 0.6666 \\ 3 \overline{)2.0000} \\ \underline{18} \\ 20 \\ \underline{18} \\ 20 \\ \underline{18} \\ 20 \end{array}$$

4. **0.417** Divide 5 by 12 to four decimal places and round to the thousandths place.

$$\begin{array}{r} 0.4166 \\ 12 \overline{)5.0000} \\ \underline{48} \\ 20 \\ \underline{12} \\ 80 \\ \underline{72} \\ 80 \end{array}$$

5. **0.55** Divide 11 by 20.

$$\begin{array}{r} 0.55 \\ 20 \overline{)11.00} \\ \underline{100} \\ 100 \\ \underline{100} \end{array}$$

6. **0.625** Divide 5 by 8.

$$\begin{array}{r} 0.625 \\ 8 \overline{)5.000} \\ \underline{48} \\ 20 \\ \underline{16} \\ 40 \\ \underline{40} \end{array}$$

7. **0.425** Divide 17 by 40.

$$\begin{array}{r} 0.425 \\ 40 \overline{)17.000} \\ \underline{160} \\ 100 \\ \underline{80} \\ 200 \\ \underline{200} \end{array}$$

8. **0.75** Divide 3 by 4.

$$\begin{array}{r} 0.75 \\ 4 \overline{)3.00} \\ \underline{28} \\ 20 \\ \underline{20} \end{array}$$

9. **0.6** Divide 3 by 5.

$$\begin{array}{r} 0.6 \\ 5 \overline{)3.0} \\ \underline{30} \end{array}$$

10. **0.28** Divide 7 by 25.

$$\begin{array}{r} 0.28 \\ 25 \overline{)7.00} \\ \underline{50} \\ 200 \\ \underline{200} \end{array}$$

11. **0.7** Divide 7 by 10.

$$\begin{array}{r} 0.7 \\ 10 \overline{)7.0} \\ \underline{70} \end{array}$$

12. **0.125** Divide 1 by 8.

$$\begin{array}{r} 0.125 \\ 8 \overline{)1.000} \\ \underline{8} \\ 20 \\ \underline{16} \\ 40 \\ \underline{40} \end{array}$$

13. **0.83** $\frac{1}{3}$

$$\frac{0.83}{6} \frac{2}{6} = 0.83 \frac{1}{3}$$

$$\begin{array}{r} 0.83 \\ 6 \overline{)5.00} \\ \underline{48} \\ 20 \\ \underline{18} \\ 2 \end{array}$$

14. **0.88** $\frac{8}{9}$

$$\begin{array}{r} 0.88 \\ 9 \overline{)8.00} \\ \underline{72} \\ 80 \\ \underline{72} \\ 8 \end{array}$$

15. **0.46** $\frac{2}{3}$

$$\frac{0.46}{15} \frac{10}{15} = 0.46 \frac{2}{3}$$

$$\begin{array}{r} 0.46 \\ 15 \overline{)7.00} \\ \underline{60} \\ 100 \\ \underline{90} \\ 10 \end{array}$$

16. **0.06** $\frac{1}{4}$

$$\frac{0.06}{16} \frac{4}{16} = 0.06 \frac{1}{4}$$

$$\begin{array}{r} 0.06 \\ 16 \overline{)1.00} \\ \underline{96} \\ 4 \end{array}$$

17. **0.27** $\frac{3}{11}$

$$\begin{array}{r} 0.27 \\ 11 \overline{)3.00} \\ \underline{22} \\ 80 \\ \underline{77} \\ 3 \end{array}$$

18. **0.33** $\frac{1}{3}$

$$\begin{array}{r} 0.33 \\ 3 \overline{)1.00} \\ \underline{9} \\ 10 \\ \underline{9} \\ 1 \end{array}$$

19. **\$3.44** Multiply $10\frac{3}{4}$ cents (or \$0.1075) by 32.

20. **\$0.23** $\frac{1}{2}$ Divide \$4.23 by 18 to two decimal places and write the remainder as a fraction.

21. **Brand B** Find the unit price for both brands by dividing the price by the number of yards. Convert to like fractions.

Brand A: $\$2.70 \div 50 = 5\frac{2}{5}$ cents = $5\frac{4}{10}$ cents

Brand B: $\$3.18 \div 60 = 5\frac{3}{10}$ cents

The unit price for Brand B is less than the unit price for Brand A. Brand B is the better buy.

$$5\frac{3}{10} < 5\frac{4}{10} \text{ so } 5\frac{3}{10} < 5\frac{2}{5}$$

22. **\$1.56** Multiply $6\frac{1}{2}$ cents (or \$0.065) by 24.

23. **Zesty** Find the unit price for both brands by dividing the price by the number of ounces. Convert to like fractions.

Zesty: $\$2.59 \div 28 = 9\frac{1}{4}$ cents

Store brand: $\$2.47 \div 26 = 9\frac{1}{2}$ cents = $9\frac{2}{4}$ cents

The unit price for Zesty sauce is less than the unit price for the store brand. Zesty is the better buy.

$$9\frac{1}{4} < 9\frac{2}{4} \text{ so } 9\frac{1}{4} < 9\frac{1}{2}$$

24. **\$2.12** Multiply $13\frac{1}{4}$ cents (or \$0.1325) by 16.

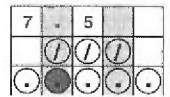
GED Practice (Page 125)

NOTE: The answers below were entered in the grid as decimals. Each could also be entered as an improper fraction. You cannot enter a mixed number in the grid.

1. **7.5** Change all the fractions to decimals and add the miles.

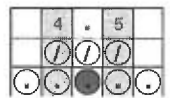
$$2.25 + 1.5 + 3.75 = 7.5$$

$$\text{(Fraction} = \frac{15}{2}\text{)}$$



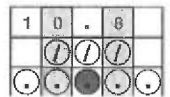
2. **\$4.50** Multiply the cost per gallon of gasoline by the number of gallons of gasoline.

$$\$1.25 \times 3.6 = \$4.50$$



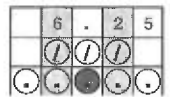
3. **10.8** Divide the total weight of the can of green beans by the weight per serving.

$$40.5 \div 3.75 = 10.8$$



4. **6.25** Subtract the length of the piece from the total length of the wooden board.

$$9.375 - 3.125 = 6.25$$



GED Practice (Page 127)

1. **(4) 68.925** Change the fractions to decimals and add the miles ridden. $26.8 + 14.375 + 27.75$

2. **(5) $7\frac{3}{4}$** Multiply the rate at which snow fell by the number of hours. $1.24 \times 6.25 = 7.75$, or $7\frac{3}{4}$

3. **(3) \$554.56** Multiply the regular rate per hour by 40 hours. $\$9.50 \times 40 = \380 Subtract 40 from the actual time worked to find the number of overtime hours. $52.25 - 40 = 12.25$ Multiply the overtime hours by the rate per hour by 1.5. $12.25 \times \$9.50 \times 1.5 = \174.5625 , or $\$174.56$ rounded to the nearest cent. Add the two amounts earned. $\$380 + \174.56
4. **(3) \$22.41** Multiply the price per gallon by the number of gallons.
 $\$1.39 \times 16\frac{1}{8} = \$1.39 \times 16.125 = \$22.41375$, or $\$22.41$ rounded to the nearest cent.
5. **(1) 1.275** Subtract the number of miles jogged by Brett from the number of miles jogged by Alicia.
 $4.875 - 3\frac{3}{5} = 4.875 - 3.6$
6. **(4) 13.225** Add the number of miles jogged by the three people.
 $4.875 + 3\frac{3}{5} + 4\frac{3}{4} = 4.875 + 3.6 + 4.75$

GED Mini-Test • Lessons 8–10

(Pages 128–131)

Part 1

1. **(3) 0.43** Divide 3 by 7. $3 \div 7 = 0.428$ or 0.43 , rounded to the nearest hundredth.
2. **(4) \$300.06** Add the five electric bills.
 $\$64.16 + \$78.92 + \$63.94 + \$50.17 + \$42.87 = \300.06
3. **(1) \$17.07** Add the cost of the three items and the total tax.
 $\$17.60 + \$9.25 + \$3.68 + \$2.40 = \$32.93$
 Subtract the result from the amount given in payment. $\$50 - \$32.93 = \$17.07$
4. **(2) \$192.88** Add the three deposits to the initial balance.
 $\$528.60 + \$45.24 + \$17.50 + \$67.45 = \$658.79$
 Subtract the two checks from the result.
 $\$658.79 - \$412.72 - \$53.19 = \192.88
5. **(3) 18.6** Divide the number of miles driven by the number of gallons of gasoline used.
 $28,606.8 \div 1,538 = 18.6$
6. **(2) \$115** Use a proportion and cross multiply.
 $\frac{6.87}{1,500} = \frac{?}{25,000}$ Another way of looking at this problem is to divide the amount of the policy by the amount the policy could increase.
 $\$25,000 \div \$1,500 = 16.67$ Multiply by $\$6.87$, the cost for each $\$1,500$ increase.
 $16.67 \times \$6.87 = \114.52 , which rounds to $\$115$.
7. **(2) \$93.75** Multiply the number of reams of paper by the price per ream. $25 \times \$3.75 = \93.75
8. **(5) \$71.25** Multiply the number of boxes of computer disks by the price per box.
 $65 \times \$7.95 = \516.75 This is the amount paid for the computer disks. Multiply the number of

printer cartridges by the price per cartridge.
 $30 \times \$14.85 = \445.50 This is the amount paid for the printer cartridges. Subtract.
 $\$516.75 - \$445.50 = \$71.25$

9. **(1) 10.025** Change all the fractions to decimals. Add the miles Millie hiked on the first two days.
 $10.6 + 11.875 = 22.475$ Subtract the result from the total length of the hike.
 $32.5 - 22.475 = 10.025$
10. **(2) 5.0** Divide the amount of growth by the number of inches per week. $16.25 \div 3.25$
11. **(3) \$4,250** Change $\frac{3}{8}$ to the decimal 0.375 . Subtract the fraction budgeted for food from the fraction budgeted for taxes. $0.375 - 0.25 = 0.125$ Multiply the result by the gross annual salary.
 $0.125 \times \$34,000 = \$4,250$
12. **(2) $\frac{3}{8}$** Add the fractions budgeted for taxes and food. $\frac{3}{8} + \frac{1}{4} = \frac{3}{8} + \frac{2}{8} = \frac{5}{8}$ Subtract the result from 1 to find the remaining fraction of William's gross annual salary. $1 - \frac{5}{8} = \frac{3}{8}$

Part 2

13. **(2) 23.037** Since the decimal is "thousandths," there must be three digits to the right of the decimal point.
14. **(3) 2.14** Since the 7 in the thousandths place is greater than 5, increase the digit in the hundredths place by 1 and drop all the remaining digits to its right.
15. **(4) \$100** Round the amount paid back to $\$1200$, a number easily divided by 12.
 $\$1200 \div 12 = \100
16. **(2) \$175 - (\$54.25 + \$30.50)** You would add the amounts of the purchases and subtract the total from $\$175$.
17. **(3) 5** Divide $\$10$ by the price of one 3-inch potted plant. $\$10 \div \$1.79 = 5.59$ Therefore, the greatest number of plants that Mohammed can buy is 5.
18. **(2) 3** Multiply the price of a 5-inch potted plant by 2, and add the price of one watering can.
 $2 \times \$3.69 + \$1.89 = \$9.27$ Subtract the result from $\$20$. $\$20 - \$9.27 = \$10.73$ Divide the result by the cost of one 4-inch potted plant.
 $\$10.73 \div \$2.89 = 3.7$ Therefore, the greatest number of plants that Anya can buy is 3.
19. **(3) \$5** Round the prices to the nearest dollar. Multiply the price of a bag of potting soil by 2, and add the price of one 5-inch potted plant.
 $2 \times \$3 + \$4 = \$10$ Subtract the result from $\$15$.
 $\$15 - \$10 = \$5$

20. **(4) 14 (\$1.29 – \$1.25)** You would subtract the price per gallon of gas at Atlas Gas from the price per gallon at Bradley Gas to get the difference in price per gallon and then multiply the result by 14 gallons.
21. **(3) \$12.61** Multiply the price per pound by the number of pounds. $\$4.85 \times 2.6 = \12.61
22. **(2) 2.4** Divide the total cost of the ground sirloin by the price per pound. $\$8.24 \div \$3.45 = 2.38$, or 2.4 rounded to the nearest tenth.
23. **(4) \$480** Round the gross monthly salary to a close number easily divisible by 5. $\$2,400 \div 5$
Dividing by 5 is the same as multiplying by $\frac{1}{5}$.
24. **(5) Not enough information is given.**
The problem doesn't state how many hours a week Fabrice works.
25. **(2) $4\frac{1}{8}$** Subtract the low value from the high value. $28\frac{3}{8} - 24\frac{2}{8} = 4\frac{1}{8}$
26. **(3) $30(24\frac{1}{4}) + 40(36\frac{1}{2})$** Multiply the number of shares of each stock by the stock's high price, and then add the two products together.

Lesson 11

GED Skill Focus (Page 133)

- 1. 0.6** $60\% = \frac{60}{100} = 0.6$
- 2. 0.38** $38\% = \frac{38}{100} = 0.38$
- 3. 0.108** $10.8\% = \frac{10.8}{100} = 0.108$
- 4. 0.04** $4\% = \frac{4}{100} = 0.04$
- 5. 2** $200\% = \frac{200}{100} = 2$
- 6. 0.05 $\frac{1}{2}$ or 0.055** $5\frac{1}{2}\% = \frac{0.05 \cdot 1}{2} = 0.05\frac{1}{2}$
- 7. 1.3** $130\% = \frac{130}{100} = 1.3$
- 8. 0.09 $\frac{1}{4}$ or 0.0925** $9\frac{1}{4}\% = \frac{0.09 \cdot 1}{4} = 0.09\frac{1}{4}$
- 9. 3.25** $325\% = \frac{325}{100} = 3.25$
- 10. 85%** $0.85 = \frac{85}{100} = 85\%$
- 11. 36%** $0.36 = \frac{36}{100} = 36\%$
- 12. 14.4%** $0.144 = \frac{14.4}{100} = 14.4\%$
- 13. 40%** $0.4 = \frac{40}{100} = 40\%$
- 14. 450%** $4.5 = \frac{450}{100} = 450\%$
- 15. 16 $\frac{2}{3}$ %** $0.16\frac{2}{3} = \frac{0.16 \cdot 2}{3} = 16\frac{2}{3}\%$
- 16. 875%** $8.75 = \frac{875}{100} = 875\%$
- 17. 37.5%** $0.375 = \frac{37.5}{100} = 37.5\%$
- 18. 7 $\frac{1}{3}$ %** $0.07\frac{1}{3} = \frac{0.07 \cdot 1}{3} = 7\frac{1}{3}\%$
- 19. 2.25** Divide. $225 \div 100 = 2.25$
- 20. 150%** Multiply. $1.5 \times 100 = 150\%$

- 21. 0.8** Divide. $80 \div 100 = 0.8$
- 22. 24%** Multiply. $0.24 \times 100 = 24\%$
- 23. 60%** Multiply. $0.6 \times 100 = 60\%$
- 24. 0.03** Divide. $3 \div 100 = 0.03$
- 25. 12.5% or 12 $\frac{1}{2}$ %** Multiply. $0.125 \times 100 = 12.5\%$
- 26. 5.5** Divide. $550 \div 100 = 5.5$

GED Skill Focus (Page 135)

- 1. $\frac{13}{20}$** $\frac{65 \div 5}{100 \div 5} = \frac{13}{20}$
- 2. $\frac{21}{25}$** $\frac{84 \div 4}{100 \div 4} = \frac{21}{25}$
- 3. $1\frac{2}{5}$** $\frac{140 \div 20}{100 \div 20} = \frac{7}{5} = 1\frac{2}{5}$
- 4. $2\frac{3}{4}$** $\frac{275 \div 25}{100 \div 25} = \frac{11}{4} = 2\frac{3}{4}$
- 5. $\frac{39}{100}$** $\frac{39}{100}$ This fraction cannot be reduced.
- 6. $4\frac{1}{2}$** $\frac{450 \div 50}{100 \div 50} = \frac{9}{2} = 4\frac{1}{2}$
- 7. 37.5%** Calculator. $3 \div 8$ **SHIFT** **=** 37.5
- 8. 93.75%** Calculator. $15 \div 16$ **SHIFT** **=** 93.75
- 9. 1.25** Calculator. $125 \div 100$ **=** 1.25
- 10. 0.875** Calculator. $87.5 \div 100$ **=** 0.875

11.	0.2	$\frac{1}{5}$	20%
12.	0.25	$\frac{1}{4}$	25%
13.	0.3	$\frac{3}{10}$	30%
14.	0.33$\frac{1}{3}$	$\frac{1}{3}$	33 $\frac{1}{3}$ %
15.	0.4	$\frac{2}{5}$	40%
16.	0.6	$\frac{3}{5}$	60%
17.	0.66$\frac{2}{3}$	$\frac{2}{3}$	66 $\frac{2}{3}$ %
18.	0.75	$\frac{3}{4}$	75%
19.	0.8	$\frac{4}{5}$	80%
20.	0.9	$\frac{9}{10}$	90%

GED Practice (Page 137)

- (1) \$7** Write a proportion. $\frac{?}{\$35} = \frac{20}{100}$
Cross multiply and solve. $\$35 \times 20 \div 100 = \7
- (4) \$562.50** $\frac{?}{\$625} = \frac{90}{100}$
 $\$625 \times 90 \div 100 = \562.50
- (3) \$33.60** $\frac{?}{\$1,344} = \frac{2.5}{100}$
 $\$1,344 \times 2.5 \div 100 = \33.60