Basic Skills Test Practice Problems
The Basic Skills Test consists of 25 problems that are similar to, but not limited to, the following sample problems. The actual exam questions do not have multiple parts. A passing score is 80% (20 correct). Calculators are NOT permitted on this test.

1. Add, subtract whole numbers
   a. 1428 + 532 = 1960
   b. 1428 − 1539 = −111
   c. 6523 − 734 = 5789
   d. 3217 − 234 = 2983
   e. 4343 − 654 = 3689
   f. 3253 + 754 = 4007
   g. 1756 − 374 = 1382
   h. 5523 − 734 = 4789
   i. 6553 − 674 = 5879
   j. 5453 − 774 = 4679

2. Multiply, divide whole numbers
   In cases with division, your first step can be to write your problem as a fraction, then reduce the fraction before using long division.
   a. 8428 ÷ 28 = 301
   b. 68 × 135 = 9180
   c. 1035 ÷ 45 = 23
   d. 1575 ÷ 63 = 25
   e. 1368 ÷ 24 = 57
   f. 2562 ÷ 42 = 61
   g. 3060 ÷ 85 = 36
   h. 4960 ÷ 31 = 160
   i. 2331 ÷ 63 = 37
   j. 103 × 45 = 4635

3. Add, subtract simple fractions
   Step 1: Rewrite fractions so they have a common denominators
   Step 2: Add the numerators only, and use the common denominator
   Step 3: Reduce the fraction if necessary
   a. \( \frac{2}{3} + \frac{5}{8} - \frac{1}{2} = \frac{2 \cdot 8}{24} + \frac{5 \cdot 3}{24} - \frac{1 \cdot 12}{24} = \frac{16}{24} + \frac{15}{24} - \frac{12}{24} = \frac{19}{24} \)
   b. \( \frac{5}{6} + \frac{3}{4} + \frac{2}{3} = \frac{5 \cdot 4}{24} + \frac{3 \cdot 6}{24} + \frac{2 \cdot 4}{24} = \frac{20}{24} + \frac{18}{24} + \frac{8}{24} = \frac{27}{24} = \frac{9}{4} \) or \( 2 \frac{1}{4} \)
   c. \( \frac{3}{8} + \frac{1}{6} = \frac{3 \cdot 6}{24} + \frac{1 \cdot 12}{24} = \frac{9}{24} + \frac{12}{24} = \frac{21}{24} = \frac{17}{24} \)
   d. \( \frac{2}{5} + \frac{3}{3} - \frac{1}{4} = \frac{2 \cdot 12}{60} + \frac{3 \cdot 15}{60} - \frac{1 \cdot 20}{60} = \frac{24}{60} + \frac{45}{60} - \frac{20}{60} = \frac{49}{60} \)
   e. \( \frac{7}{8} + \frac{3}{12} - \frac{11}{6} = \frac{7 \cdot 6}{42} + \frac{3 \cdot 4}{42} - \frac{11 \cdot 7}{42} = \frac{21}{42} + \frac{12}{42} - \frac{77}{42} = \frac{17}{42} \)
   f. \( \frac{17}{10} - \frac{2}{15} = \frac{17 \cdot 3}{30} - \frac{2 \cdot 2}{20} - \frac{7 \cdot 2}{20} = \frac{51}{30} - \frac{20}{20} - \frac{14}{20} = \frac{17}{30} \)
   g. \( \frac{3}{8} + \frac{1}{5} = \frac{3 \cdot 5}{40} + \frac{1 \cdot 8}{40} = \frac{15}{40} + \frac{8}{40} = \frac{23}{40} \)
   h. \( \frac{7}{10} + \frac{3}{8} = \frac{7 \cdot 8}{80} + \frac{3 \cdot 10}{80} = \frac{56}{80} + \frac{30}{80} = \frac{76}{80} = \frac{19}{20} \)
   i. \( \frac{3}{5} + \frac{7}{10} - \frac{13}{20} = \frac{3 \cdot 4}{20} + \frac{7 \cdot 2}{20} - \frac{13 \cdot 1}{20} = \frac{12}{20} + \frac{14}{20} - \frac{13}{20} = \frac{13}{20} \)
   j. \( \frac{5}{9} + \frac{3}{12} = \frac{5 \cdot 4}{36} + \frac{3 \cdot 3}{36} = \frac{20}{36} + \frac{9}{36} = \frac{29}{36} \)

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4. Add, subtract integers (leave answer as a mixed number)
   The method below is to help avoid using improper fractions with large numerators. It is only one of many ways that you can solve the problem, and many of you can do these with fewer steps.

   Step 1: Group whole numbers together and fractional parts together.
   Step 2: Add/subtract each group. Add/subtract the fractional part as in practice problem #3 (step not shown below).
   Step 3: Combine the whole part and the fractional part back together again.

   a. \(248 \frac{1}{3} + 14 \frac{2}{6} = (248 + 14) + \left(\frac{1}{3} + \frac{5}{6}\right) = 262 + \frac{7}{6} = 262 + 1 \frac{1}{6} = 263 \frac{1}{6}\)
   b. \(114 \frac{3}{4} + 205 \frac{1}{3} = (114 + 205) + \left(\frac{3}{4} + \frac{1}{3}\right) = 319 + \frac{13}{12} = 319 + 1 \frac{1}{12} = 320 \frac{1}{12}\)
   c. \(193 \frac{1}{3} - 28 \frac{1}{2} = (193 - 28) + \left(\frac{1}{3} - \frac{1}{2}\right) = 165 + \left(-\frac{1}{6}\right) = (164 + 1) + \left(-\frac{1}{6}\right) = (164 + \frac{6}{6}) + \left(-\frac{1}{6}\right) = 164 + \frac{5}{6} = 164 \frac{5}{6}\)
   d. \(413 \frac{2}{5} - 117 \frac{1}{2} = (413 - 117) + \left(\frac{2}{5} - \frac{1}{2}\right) = 296 + \left(-\frac{1}{10}\right) = (295 + 1) + \left(-\frac{1}{10}\right) = (295 + \frac{10}{10}) + \left(-\frac{1}{10}\right) = 295 + \frac{9}{10} = 295 \frac{9}{10}\)

5. Add, subtract integers
   The procedure is to rewrite without the parentheses and change numbers affected by negatives. Then, add or subtract from left to right.

   a. \(45 + (-34) + (-75) = 45 - 34 - 75 = 11 - 75 = -64\)
   b. \(-53 + (32) = -53 + 32 = -21\)
   c. \(124 + (-43) - 27 = 124 - 43 - 27 = 81 - 27 = 54\)
   d. \(-15 + 12 = -3\)
   e. \(-23 + (31) + (73) = -23 + 31 + 73 = 54 + 73 = 19\)
   f. \(-15 + 12 = -2\)
   g. \(16 - 34 = -18 + 72 = 54\)
   h. \(115 - 12 = 103\)
   i. \(-45 + 15 = -30 + 23 = -7\)
   j. \(-15 + 15 = 0 + 23 = 23\)

6. Add, subtract decimals
   The procedure is to align the decimals if you are solving this in a vertical format. Many students prefer to include additional zeros to help with the alignment.

   a. \(0.510 - 0.013 = 0.497\)
   b. \(2.800 - 1.007 = 1.793\)
   c. \(35.000 - 0.73 = 34.27\)
   d. \(0.0530 - 0.0084 + 0.0009 = 0.0445\)
   e. \(0.2000 + 0.0300 + 0.0007 = 0.2307\)
   f. \(0.1400 + 0.3000 - 0.0071 = 0.4329\)
   g. \(0.270 + 0.093 - 0.303 = 0.06\)
   h. \(0.700 + 2.093 - 1.030 = 1.763\)
   i. \(1.270 + 0.093 - 0.301 = 1.062\)
   j. \(0.127 - 0.930 + 0.323 = -0.48\)
   k. \(0.200 + 1.093 - 0.030 = 1.263\)
   l. \(0.056 + 0.930 - 0.203 = 0.783\)

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7. Multiply, divide fractions (reduce to lowest terms)
Step 1: If necessary, change the fraction following a division symbol to a product with the reciprocal (for example, see #7e below.)
Step 2: Reduce factors in the numerator with common factors in the denominator.
Step 3: Multiply the numerators together and multiply the denominators together.
Note: You could first multiply across and then reduce, but your numbers will be very large.
Below, the intermediate step shows reduction. Try to see how the factors divided out as you work each problem.

a. \[ \frac{4}{7} \times \frac{20}{3} \times \frac{7}{1} = \frac{1}{1} \times \frac{1}{1} = \frac{1}{1} = 1 \]
b. \[ \frac{3}{8} \times \frac{6}{15} \times \frac{12}{11} = \frac{1}{1} \times \frac{1}{1} = \frac{1}{1} = 1 \]
c. \[ \frac{7}{3} \times \frac{2}{4} \times \frac{11}{3} = \frac{1}{1} \times \frac{1}{1} = \frac{1}{1} = 1 \]
d. \[ \frac{10}{7} \times \frac{4}{8} \times \frac{14}{1} = \frac{1}{1} \times \frac{1}{1} = \frac{1}{1} = 1 \]
e. \[ \frac{3}{4} \div \frac{7}{3} = \frac{15}{28} \]
f. \[ \frac{3}{4} \div \frac{7}{8} = \frac{6}{7} \]
g. Divide \( \frac{3}{4} \) into \( \frac{7}{8} \). Same as #7e.

8. Multiply, divide integers
Step 1: Multiply or divide (reduce). Be careful with the negatives.
Step 2: Complete the problem as done in practice problem #5 above.

a. \( (-3)(-1) + (-2)(2) = 3 - 4 = -1 \)
b. \( (-4)(2) - (-3)(2) = -8 - 6 = -16 \)
c. \( (1)(-5) + (-2)(0) = -5 + 0 = -5 \)
d. \( -\frac{16}{3} = -\frac{16}{-8} = 2 \)
e. \( \frac{36}{4(-3)} = \frac{36}{12} = 3 \)
f. \( (-10)(2) - 3(7) = -20 - 21 = -41 \)
g. \( (-6)(-2) - (9)(-3) = 12 + 27 = 39 \)
h. \( (3)(-6) + (-3)(20) = -18 - 60 = -78 \)
i. \( (5)(-4) - (2)(10) = 20 + 20 = 40 \)
j. \( (5)(-4) - (2)(11) = -20 + 22 = 2 \)

9. Multiply, divide decimals
You must know how to do these exercises without a calculator. Review long division. For many division questions, consider converting the question to a fraction, reduce the fraction, then use long division with smaller numbers. There are many online resources to remind you how to multiply and divide decimals as well as the long division algorithm.

a. \( 2.16 \times 6.7 = 14.472 \)
b. \( 0.7452 \div 0.36 = 2.07 \)
c. \( 0.04935 \div 0.21 = 0.235 \)
d. \( 0.015 \times 117.5 = 1.7625 \)
e. \( 1603.8 \div 121.5 = 13.2 \)
f. \( 1788.5 \div 122.5 = 14.6 \)
g. \( 1403.75 \div 112.3 = 12.5 \)
h. \( 1593.9 \div 103.5 = 15.4 \)
i. \( 1629.25 \div 122.5 = 13.3 \)
j. \( 14.8 \times 13.25 = 196.1 \)

10. Simplify an expression involving exponents
Simplify each according to the order of operations:
1. Parentheses and other grouping symbols
2. Exponents
3. Multiplication and division from left to right
4. Addition and subtraction from left to right

a. \( 2^5 + 3^2 = 32 + 9 = 41 \)
b. \( (2^3 + 3)^2 = (8 + 3)^2 = 11^2 = 121 \)
c. \( 2^3 - 3^2 = 8 - 9 = -1 \)
d. \( (2^4)(3^3) = (16)(27) = 432 \)
e. \( (3^2 \times 3^3) + 3 = (9 \times 27) + 3 = 243 + 3 = 246 \)
f. \( 8^2 - 2^4 + 1^{13} = 64 - 16 + 1 = 49 \)
g. \( (5 - 2)^2 - 2^4 - 3^2 = 3^2 - 2^4 - 3^2 = 9 - 16 - 9 = -16 \)
h. \( 1^4 - 3^2 + (2 - 1)^4 = 1 - 9 + 1^4 = -8 + 1 = -7 \)
i. \( (-8)^2 + 2^4 - 1^3 = 64 + 16 - 1 = 79 \)
j. \( -2^2 - 2^4 + 2^0 = -4 - 16 + 1 = -19 \)
k. \( 3^2 + 2^3 - (10 - 7)^2 = 3^2 + 2^3 - 3^2 = 3^2 = 9 \)
l. \( -2^2 + 4^3 - (9 - 7)^2 = -4 + 64 - 2^2 = 60 - 4 = 56 \)

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11. Simplify an expression using order of operations

Simplify each according to the order of operations as in #10.

a. \(21 + 11 \times 0 = 21 + 0 = 21\)
b. \((21 + 11) \times 0 = 32 \times 0 = 0\)
c. \(21 + (11 \times 0) = 21 + 0 = 21\)
d. \(15 + \frac{2}{7} = 15 + 14 = 29\)
e. \(4 \div 2 \times 8 + 3 = 2 \times 8 + 3 = 16 + 3 = 19\)
f. \(4 \times 2 \div 8 = 8 \div 8 = 1\)
g. \(24 \div (5 - 2) \times 11 = 24 \div 3 \times 11 = 8 \times 11 = 88\)
h. \(12 \div (6 - 2) \times 7 = 12 \div 4 \times 7 = 3 \times 7 = 21\)
i. \(4 \div (-5 + 2) \times 12 = 4 \div (-3) \times 12 = \frac{4}{-3} \times \frac{12}{-3} = -16\)

12. Ordering of rational numbers: Which of the following is greater?

a. \(\frac{13}{14} \quad \frac{14}{15} \quad \frac{15}{14} \quad \frac{13}{14}\) is greater.
b. \(\frac{12}{8} \quad \frac{11}{8} \quad \frac{12}{8}\) is greater.
c. \(\frac{118}{203} \quad \frac{117}{200} \quad \frac{23,600}{203}(200)\) Here it is easy to use a common denominator for comparison. \(\frac{23,751}{203}(200)\). Since \(23,600 < 23,751\) then \(\frac{117}{200}\) is greater. Note: to save time, don’t multiply out the denominators.
d. \(\frac{23}{31} \quad 0.75\) Multiply both by 31 and compare. \(\frac{23}{31} \times 31 = 23\), while \(0.75 \times 31 = 23.25\). Therefore, \(0.75\) is greater.
e. \(\frac{7}{9} \quad 0.63\) Multiply both by 8 and comparison. \(\frac{7}{9} \times 8 = 5\), while \(0.63 \times 8 = 5.04\). Therefore, \(0.63\) is greater.
f. \(\frac{7}{9} \quad 0.79\) Multiply both by 9 and comparison. \(\frac{7}{9} \times 9 = 7\), while \(0.79 \times 9 = 7.11\). Therefore, \(0.79\) is greater.

13. Convert fractions to decimals

The goal here is to use long division only when necessary. Instead, look for a factor to make the denominator 10, 100, 1000, etc. If you feel comfortable with long division, it will always give you the correct result. Below are alternative methods.

a. \(\frac{7}{5} = \frac{7 \times 2}{5 \times 2} = \frac{14}{10} = 1.4\)
b. \(\frac{3}{4} = \frac{3 \times 25}{4 \times 25} = \frac{75}{100} = 0.75\)
c. \(\frac{11}{40} = \frac{11 \times 25}{4 \times 25} = \frac{275}{100} = 0.275\)
d. \(\frac{5}{8} = \frac{5 \times 25}{8 \times 25} = \frac{125}{200} = 0.625\)
e. \(\frac{9}{20} = \frac{9 \times 25}{20 \times 25} = \frac{225}{500} = 0.65\)
f. \(\frac{7}{8} = \frac{7 + 1}{8} = \frac{1 + \frac{5}{4} \times 25}{25} = \frac{1 + 12.5}{100} = 1 + 0.125 = 1.125\)

14. Write the prime factorization of each of the following

Your answer is not complete if it does not contain the multiplication symbol.

a. \(126 = 2 \times 3^2 \times 7\)
b. \(189 = 3^3 \times 7\)
c. \(252 = 2^2 \times 3^2 \times 7\)
d. \(234 = 2 \times 3^2 \times 13\)
e. \(378 = 2 \times 3^3 \times 7\)
f. \(162 = 2 \times 3^4\)

15. Using percents to find part or whole

There are many ways to solve percentage problems. Remember to use a decimal for percentages (move the decimal by two positions). The method used below translates the question to mathematics using \(p\) or \(n\) for the variable, \(\times\) for the word of and \(=\) for the word is. Steps were omitted, but the final answer is provided. For questions that ask for the percentage, you need convert and use the \% symbol. Some like to remember, “Is over of equals percent over 100.”

a. What percent of 9 is 6? \(p \times 9 = 6\); \(66\frac{2}{3}\%\)
b. What percent of 9 is 12? \(p \times 9 = 12\); \(133\frac{1}{3}\%\)
c. What is 11% of 93? \(n = 0.11 \times 93 = 10.23\)
d. 96 is 12% of what number? \(96 = 0.12 \times n\); 800

e. 135% of 83 is what number? \(1.35 \times 83 = n\); 112.05

f. 180% of what number is 810? \(1.80 \times n = 810\); 450

g. 250 is 250% of what number? \(250 = 2.50 \times n\); 100

h. 75 is what percent of 50? \(75 = p \times 50\); 150%
i. 180% of what number is 612? \(1.80 \times n = 612\); 340

j. 90% of what number is 117? \(0.90 \times n = 117\); 130

k. What number is 140% of 250? \(n = 1.40 \times 250 = 350\)

l. What number is 130% of 250? \(n = 1.30 \times 250 = 325\)

m. 80% of what number is 420? \(0.80 \times n = 420\); 525

n. 120% of what number is 300? \(1.20 \times n = 300\); 250

o. 120% of what number is 480? \(1.20 \times n = 480\); 400

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16. Solving a linear equation in one variable
   Step 1: Add or subtract both sides by the constant that is on the left (in green).
   Step 2: Divide both sides by the coefficient (reduced final answer is shown in red).

   a. \(3x - 2 = 16; 3x = 18; x = 6\)
   b. \(4x + 21 = 57; 4x = 36; x = 9\)
   c. \(9x + 16 = -11; 9x = -27; x = -3\)
   d. \(8x - 22 = 82; 8x = 104; x = 13\)
   e. \(7x + 16 = 233; 7x = 217; x = 31\)
   f. \(3x - 12 = 57; 3x = 69; x = 23\)
   g. \(8x + 17 = 145; 8x = 128; x = 16\)
   h. \(6x - 18 = 72; 6x = 90; x = 15\)
   i. \(5x + 16 = 131; 5x = 115; x = 23\)
   j. \(-2x + 16 = 28; -2x = 12; x = -6\)

17. Estimation of Roots: Between what two integers is each of the following?
   First, find two perfect square so that your radical is between them (in green), then use the roots of those radicals (red).

   a. Since \(\sqrt{49} < \sqrt{53} < \sqrt{64}, 7 < \sqrt{53} < 8\)
   b. Since \(\sqrt{64} < \sqrt{78} < \sqrt{81}, 8 < \sqrt{78} < 9\)
   c. Since \(-\sqrt{81} < -\sqrt{67} < -\sqrt{64}, -9 < -\sqrt{67} < -8\)
   d. Since \(-\sqrt{100} < -\sqrt{89} < -\sqrt{81}, -10 < -\sqrt{89} < -9\)

18. Application: Fractions to decimals to percents
   You can use long division on any of the questions below. An alternative method is used below. Basically, first reduce the fraction if possible, then convert it so it has a denominator of 100.

   a. \(\frac{7}{8}\) of a pizza is what percent of a pizza?
      \(\frac{7}{8} \times 1.25 = \frac{87.5}{100} = 87.5\%\)
   b. \(\frac{4}{5}\) of a class is what percent of a class?
      \(\frac{4}{5} \times \frac{20}{25} = \frac{80}{100} = 80\%\)
   c. \(\frac{3}{60}\) of an arc is what percentage of an arc?
      \(\frac{3}{60} = \frac{1}{20} = \frac{1}{20} \times \frac{5}{5} = \frac{5}{100} = 5\%\)
   d. \(\frac{11}{20}\) of a pie is what percentage of a pie?
      \(\frac{11}{20} \times \frac{5}{5} = \frac{55}{100} = 55\%\)
   e. \(\frac{6}{15}\) of a pint is what percentage of a pint?
      \(\frac{6}{15} = \frac{2}{5} = \frac{2}{5} \times \frac{20}{20} = \frac{40}{100} = 40\%\)
   f. \(\frac{5}{4}\) of a mile is what percentage of a mile?
      \(\frac{5}{4} \times \frac{25}{25} = \frac{125}{100} = 125\%\)
   g. \(\frac{9}{8}\) of an hour is what percentage of an hour?
      \(\frac{9}{8} \times \frac{125}{125} = \frac{112.5}{100} = 112.5\%\)
   h. \(\frac{12}{12}\) of a foot is what percentage of a foot?
      \(\frac{12}{12} = 1 \times \frac{100}{100} = \frac{100}{100} = 100\%\)

19. Application: Percents to decimals to fractions (reduce to simplest form)
   Write the percentage as a fraction out of 100, then reduce.

   a. 55% of an acre is what fraction of an acre? \(\frac{55}{100} = \frac{11}{20}\)
   b. 36% of a kilometer is what fraction of a kilometer? \(\frac{36}{100} = \frac{9}{25}\)
   c. 84% of a loaf of bread is what fraction of a loaf of bread? \(\frac{84}{100} = \frac{21}{25}\)
   d. 140% increase in the size of a cereal box is what fraction of an increase in size? \(\frac{140}{100} = \frac{7}{5}\)

20. Multiplication and Division involving zero
   Keep in mind that dividing by zero is not possible. We say it is undefined. A way to remember this is that when zero is underneath the fraction bar, the answer is undefined.

   a. \(0 \div 6 = 0\)
   b. \(6 \div 0\) undefined
   c. \(0 \div 0\) undefined
   d. \(0 \times 6 = 0\)
   e. \(6 \times 0 = 0\)
   f. \(0 \times 0 = 0\)
   g. Simplify: \(-\frac{5 \times 3 + 11}{1 - (8 - 7)} = -\frac{4}{0}\) undefined
   h. Simplify: \(\frac{7 \times 2 - 2 - 12}{-4 \times 6} = \frac{0}{0}\) undefined
   i. Simplify: \(\frac{8 \times 3 - 2 - 2 - 12}{6 \times (-2) + 12} = \frac{24}{0}\) undefined
   j. Simplify: \(\frac{2 \div (-2) + 11}{9 - 9} = \frac{18}{0}\) undefined
21. Elapsed time
a. Jill began her yard work at 11:15 a.m. and ended at 4:05 p.m. She worked 4 hours and 50 minutes.
b. John finished his 4 hour and 25 minute bicycle trip at 3:40 p.m. He began his trip at 11:15 a.m.
c. If Sally will spend 15 hours and 38 minutes traveling from Washington to Miami and starts her trip at 2:15 p.m., when will she arrive? 5:53 a.m. (the next day)
d. Phil drove for 6 hours and 28 minutes. If he left at 8:42 a.m., what time did he arrive? 3:10 p.m.
e. Chris went to sleep at 10:42 p.m. He woke up at 6:19 a.m. He slept for 7 hours and 37 minutes.
f. Sarah drove for 9 hours and 48 minutes. If she arrived at 8:42 p.m. She left at 10:54 a.m.
g. Justin went outside to play at 11:25 a.m. He came in for dinner at 5:42 p.m.
h. Mark hiked for 5 hours and 18 minutes. If he started at 7:52 a.m., what time did he end? 1:10 p.m.
i. Matt studied from 11:53 a.m. to 1:52 a.m. He studied for 13 hours and 59 minutes.

22. Representation of money
a. Express 7 quarters, 27 dimes, 5 nickels and 11 pennies in terms of dollars and cents. $4.81
b. Express 3 quarters, 17 dimes, 15 nickels and 6 pennies in terms of dollars and cents. $3.26
c. Express 9 quarters, 24 dimes, 14 nickels and 28 pennies in terms of dollars and cents. $5.63

23. Ratio/proportion
You are encouraged to write the proportions as demonstrated below. Observe the denominators and use the multiplier from the denominator with the numerator to arrive at the solution. Only use the whole number as the answer (in red).

<table>
<thead>
<tr>
<th>Expression</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \frac{3}{5} ) of a pizza is how many 15ths?</td>
<td>( \frac{3}{5} = \frac{9}{15} )</td>
</tr>
<tr>
<td>( \frac{2}{3} ) of a pie is how many 8ths?</td>
<td>( \frac{2}{3} = \frac{8}{12} )</td>
</tr>
</tbody>
</table>

24. Unit pricing
Make sure that you round as required.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>How much is 4.53 pounds of meat at $1.39 per pound (to the nearest cent)?</td>
<td>$6.30</td>
</tr>
<tr>
<td>To the nearest cent, what is the price per pound? 3.38 lbs.</td>
<td>$1.36/lb.</td>
</tr>
<tr>
<td>At $3.12 per pound, how many pounds of sugar can be purchased with $21.21?</td>
<td>Round to tenth. 6.8</td>
</tr>
</tbody>
</table>

25. Area, perimeter

a. What is the area of the rectangle shown? Include proper units in your answer. 
   \[ \text{Area} = \text{length} \times \text{width} = (8 \text{ ft}) \times (3 \text{ ft}) = 24 \text{ ft}^2 \]

b. What is the perimeter of the rectangle shown in part (a)? Include proper units in your answer. 
   \[ \text{Perimeter} = 2l + 2w = 2(8 \text{ ft}) + 2(3 \text{ ft}) = 16 \text{ ft} + 6 \text{ ft} = 22 \text{ ft} \]

c. What is the area of a circle with a diameter of 6 cm? Include proper units in your answer, and round your answer to the nearest hundredth, if necessary. (Use the approximation that \( \pi = 3.14 \)). 
   \[ \text{Area} = \pi r^2 = (3.14)(3 \text{ cm})^2 = 3.14 \times 9 \text{ cm}^2 = 28.26 \text{ cm}^2 \]

d. What is the circumference of a circle with a diameter of 6 cm? Include proper units in your answer, and round your answer to the nearest hundredth, if necessary. (Use the approximation that \( \pi = 3.14 \)). 
   \[ \text{Circumference} = 2\pi r = 2(3.14)(3 \text{ cm}) = 3.14 \times 6 \text{ cm} = 18.84 \text{ cm} \]

e. What is the area of the triangle shown? Include proper units in your answer, and round your answer to the nearest hundredth, if necessary. 
   \[ \text{Area} = \frac{1}{2}(\text{base} \times \text{height}) = \frac{1}{2}(3 \text{ in.})(4 \text{ in.}) = 6 \text{ in.}^2 \]

f. What is the perimeter of the triangle shown in part (e)? Include proper units in your answer, and round your answer to the nearest hundredth, if necessary. 
   \[ \text{Perimeter} = \text{sum of the sides} = 3 \text{ in.} + 4 \text{ in.} + 5 \text{ in.} = 12 \text{ in.} \]

g. Find the area of a circle with radius 4 cm. Include proper units in your answer, and round your answer to the nearest hundredth, if necessary. (Use the approximation that \( \pi = 3.14 \)). 
   \[ \text{Area} = \pi r^2 = (3.14)(4 \text{ cm})^2 = 3.14 \times 16 \text{ cm}^2 = 50.24 \text{ cm}^2 \]
h. Determine the circumference of a circle with radius 8 cm. Include proper units in your answer, and round your answer to the nearest hundredth, if necessary. (Use the approximation that \( \pi = 3.14 \)). 
   \[ \text{Circumference} = 2\pi r = 2(3.14)(8 \text{ cm}) = 2 \times 3.14 \times 8 \text{ cm} = 50.24 \text{ cm} \]