Using MathMedia TESTS

TO: Instructors, Teachers, and self-learners

Here are some ideas for using the enclosed TEST(s):

(1) Use the Test as a PRE-TEST to find areas of weakness. The top left corner of each problem indicates which section in the program to study for that question.

(2) Use the Test as a PRE-TEST to compare with the score obtained after going through the whole program.

(3) Use the TEST as a traditional POST-TEST to determine proficiency in the subject. Print test and score sheet to analyze weak areas, which require further study.

(4) Perform the TEST at the computer or on paper -- score the test at the computer or score "by hand" with the enclosed answer sheet(s).

MathMedia Educational Software, Inc.
www.mathmedia.com

EQUIVALENT FRACTIONS — QUESTION 1

Identify Equivalent Fractions on the Number Line

Number line 1: 0, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, 1

Number line 2: 0, $\frac{1}{8}$, $\frac{2}{8}$, $\frac{3}{8}$, $\frac{4}{8}$, $\frac{5}{8}$, $\frac{6}{8}$, $\frac{7}{8}$, 1

(a) How many eighths equal one–fourth? ☐

(b) How many eighths equal one–half? ☐

(c) How many fourths equal six–eighths? ☐

◁ Previous   Next Question

REDUCING FRACTIONS — QUESTION 2

Match each fraction to its equivalent.
Enter the correct letter in each answer box.

(i) $\frac{2}{4}$ ☐

(ii) $\frac{8}{10}$ ☐

(iii) $\frac{10}{12}$ ☐

(iv) $\frac{8}{8}$ ☐

Answer Choices

(a) $\frac{1}{4}$ (e) $\frac{4}{5}$

(b) 1

(c) $\frac{5}{6}$ (f) $\frac{1}{2}$

(d) $\frac{2}{3}$ (g) $\frac{4}{9}$

◁ Previous   Next Question

REDUCING FRACTIONS — QUESTION 3

Reduce the following fractions. Answer in a/b form.

(a) $\frac{4}{14}$ = ☐

(b) $\frac{10}{12}$ = ☐

(c) $\frac{3}{12}$ = ☐

(d) $\frac{10}{15}$ = ☐

◁ Previous   Next Question

COMPARE FRACTIONS — QUESTION 4

Use the symbols
> ("greater than")
< ("less than")
= ("equal to")
to answer the following relationships:

(a) $\frac{2}{3}$ ☐ $\frac{4}{6}$

(b) $\frac{1}{4}$ ☐ $\frac{1}{8}$

(c) $\frac{1}{3}$ ☐ $\frac{1}{4}$

(d) $\frac{2}{3}$ ☐ $\frac{3}{4}$

(e) $\frac{1}{2}$ ☐ $\frac{3}{8}$

(f) $\frac{3}{4}$ ☐ $\frac{7}{8}$

◁ Previous   Next Question

EQUIVALENT FRACTIONS — QUESTION 5

(a) $\frac{3}{4} = \frac{\square}{20}$

(b) $\frac{3}{4} = \frac{\square}{28}$

(c) $\frac{3}{4} = \frac{\square}{44}$

(d) $\frac{4}{9} = \frac{\square}{18}$

(e) $\frac{4}{9} = \frac{\square}{27}$

(f) $\frac{4}{9} = \frac{\square}{54}$

◁ Previous   Next Question

LCD — QUESTION 6

Find the LCD for each pair of fractions.

(a) $\frac{1}{8}$ $\frac{1}{10}$ ☐

(b) $\frac{2}{9}$ $\frac{3}{8}$ ☐

⇦ Previous   Next Question

QUESTION 7

These are harder...
YOU CAN DO IT !

Rewrite each fraction as a mixed number. The whole number is given. Answer in a/b form.

(a) $\frac{24}{11} = 2$

(b) $\frac{35}{6} = 5$

⇦ Previous   Next Question

QUESTION 8 — IMPROPER FRACTIONS

Rewrite the following as improper fractions.
Answer in a/b form.

(a) $2\frac{3}{4}$ = _____

(b) $4\frac{2}{3}$ = _____

QUESTION 9 — GRAPHING FRACTIONS

A B J C D K E F M G H N

0 ——— 1 ——— 2 ——— 3 ——— 4

(i) Which letter corresponds to the number $\frac{16}{6}$? _____

(ii) Which letter corresponds to the number $\frac{24}{12}$? _____

(iii) Which letter corresponds to the number $\frac{7}{3}$? _____

(iv) Which letter corresponds to the number $\frac{9}{3}$? _____

QUESTION 10 — FRACTIONS TO DECIMALS

Convert the following fractions to decimals:

Click and enter your answer in the box.

(a) $\frac{1}{2}$ = _____

(b) $\frac{1}{4}$ = _____

(c) $\frac{3}{4}$ = _____

(d) $\frac{1}{5}$ = _____

(e) $\frac{2}{5}$ = _____

(f) $\frac{3}{5}$ = _____

(g) $\frac{4}{5}$ = _____

QUESTION 11 — PROBLEM SOLVING

To prepare for a trip you fill up your car's gas tank.
You then drive 300 miles and stop
for gas again. This time when you fill up your gas tank
your car takes 12 gallons of gas. How many miles per gallon
did your car get for the 300 miles you just drove?

_____ miles per gallon

QUESTION 12 — PROBLEM SOLVING

If your job pays you $114 for an eight-hour day,
what could you expect to be paid for working
forty hours?

$ _____

QUESTION 13 — ADDING FRACTIONS

Find each sum. Write your answer in lowest terms.
Answer in a/b form.

(a) $\frac{5}{16}$ + $\frac{3}{16}$ = _____

(b) $\frac{5}{7}$ + $\frac{1}{7}$ = _____

(c) $\frac{2}{3}$ + $\frac{1}{3}$ = _____

QUESTION 14 — ADDING FRACTIONS

Find each sum. Write all answers in lowest terms.
Click & enter all the steps in all the boxes.
Leave your answer as an "improper" fraction.

(a) $\frac{3}{5}$ = _____
   + $\frac{1}{2}$ = _____

(b) $\frac{2}{3}$ = _____
   + $\frac{3}{5}$ = _____

(c) $\frac{3}{4}$ = _____
   + $\frac{3}{5}$ = _____

Answer in a/b form.

QUESTION 15 — SUBTRACT FRACTIONS

Find each sum. Write all answers in lowest terms.
Click & enter all the steps in all the boxes.

(a) $\frac{1}{2}$ = _____
   − $\frac{1}{3}$ = _____

(b) $\frac{2}{3}$ = _____
   − $\frac{1}{2}$ = _____

(c) $\frac{3}{4}$ = _____
   − $\frac{1}{2}$ = _____

Answer in a/b form.

Use either method to find each product.
Write your answer in lowest terms.

Click in the box and enter your answers in a/b form.

(a) $\dfrac{4}{21} \times \dfrac{7}{8} = $ [   ]

(b) $\dfrac{7}{8} \times \dfrac{12}{21} = $ [   ]

← Previous   Next Question

Find each quotient. Write your answer in lowest terms.
(Improper fractions are OK.)

Click in the box and enter your answers in a/b form.

(a) $\dfrac{3}{5} \div \dfrac{9}{25} = $ [   ]

(b) $\dfrac{4}{9} \div \dfrac{20}{27} = $ [   ]

(c) $\dfrac{4}{21} \div \dfrac{5}{3} = $ [   ]

← Previous   Next Question

A recipe calls for two-and-a-half cups of flour.
You wish to cut the recipe in half.
How much flour will you need?
(Write your answer as a mixed number.)
The whole number is given. Answer in a/b form.

[1]   cups

← Previous   Next Question

$$2\tfrac{3}{5} \times \tfrac{1}{2}$$

Click & enter your answer
both as an improper fraction
and then as a mixed number.

(a) [   ] = 1   (b)

← Previous   Next Question

$$4\tfrac{1}{2} \div 1\tfrac{1}{3}$$

Write your answer as an "improper fraction"
in lowest terms and in a/b form.

[   ]

← Previous   SCORE THIS TEST   This is the end.

Date: Student Name:

Score report for Fraction Basics

Q1(a)	Q4(a)	Q6(a)	Q10(a)	Q14(a)	Q18
Q1(b)	Q4(b)	Q6(b)	Q10(b)	Q14(b)	
Q1(c)	Q4(c)		Q10(c)	Q14(c)	Q19(a)
	Q4(d)	Q7(a)	Q10(d)		Q19(b)
Q2(i)	Q4(e)	Q7(b)	Q10(e)	Q15(a)	
Q2(ii)	Q4(f)		Q10(f)	Q15(b)	Q20
Q2(iii)		Q8(a)	Q10(g)	Q15(c)	
Q2(iv)	Q5(a)	Q8(b)			Score:
	Q5(b)		Q11	Q16(a)	
Q3(a)	Q5(c)	Q9(i)	Q12	Q16(b)	/ 60
Q3(b)	Q5(d)	Q9(ii)			
Q3(c)	Q5(e)	Q9(iii)	Q13(a)	Q17(a)	%
Q3(d)	Q5(f)	Q9(iv)	Q13(b)	Q17(b)	
			Q13(c)	Q17(c)	

Exit TEST   PRINT

**Answers to
Fraction Basics Test:**

Q1 (a) 2
Q1 (b) 4
Q1 (c) 3

Q2 (i) f
Q2 (ii) e
Q2 (iii)c
Q2 (iv)b

Q3 (a) 2/7
Q3 (b) 5/6
Q3(c) 1/4
Q3 (d) 2/3

Q4 (a) =
Q4 (b) >
Q4(c) >
Q4 (d) <
Q4 (e) >
Q4 (f) <

Q5 (a) 15
Q5 (b) 21
Q5(c) 33
Q5 (d) 8
Q5 (e) 12
Q5 (f) 24

Q6 (a) 40
Q6 (b) 72

Q7 (a) 2 2/11
Q7 (b) 5 5/6

Q8(a) 11/4
Q8(b) 14/3

Q9 (i) f
Q9 (ii) k
Q9 (iii)e
Q9 (iv)m

Q10 (a)   .5
Q10 (b)   .25
Q10(c) .75
Q10 (d) .2
Q10 (e)   .4
Q10 (f) .6
Q10 (g) .8

Q11   25

Q12   570

Q13 (a) ½
Q13 (b) 6/7
Q13(c) 1

Q14 (a) 11/10
Q14 (b) 19/15
Q14(c) 27/20

Q15 (a) 1/6
Q15 (b) 1/6
Q15 (c) ¼

Q16 (a) 1/6
Q16 (b) ½

Q17 (a) 5/3
Q17 (b) 3/5
Q17 (c) 4/35

Q18 1 ¼

Q19   13/10 = 1 3/10

Q20   27/8

Click in the box which best describes your preparation for this test and enter the letter "x".

☐ I have worked through the entire computer program for "Decimal Basics".

☐ I have worked through some of the computer program for "Decimal Basics".

☐ I have not worked through the computer program for "Decimal Basics".

Print 'Decimal Basics' TEST

➡ Begin TEST

Place Value   QUESTION 1

Click in the box and enter your answer. Then click OK.

(a) What digit is in the tenths place?

17.89 ☐

(b) What digit is in the tens place?

506.18 ☐

(c) What digit is in the hundredths place?

8.635241 ☐

⬅ Previous   Next Question

Writing Decimals   QUESTION 2

You will often hear decimals spoken in the following ways.
Write these decimals in numbers.
Remember "and" is where the decimal point goes.

(a) "One and twenty five hundredths" ☐

(b) "Five and five tenths" ☐

(c) "Three hundred and a tenth" ☐

(d) "Three and three tenths" ☐

(e) "Three and three thousandths" ☐

⬅ Previous   Next Question

Graphing Decimals   QUESTION 3

A B C   D E F G   H J K
0.0   0.5   1.0

Enter the letter which represents each number.

0.2 ☐ (i)

0.6 ☐ (ii)

0.9 ☐ (iii)

1.2 ☐ (iv)

0.0 ☐ (v)

⬅ Previous   Next Question

Comparing Decimals   QUESTION 4

Use the symbols
Greater Than >
Less Than <
Equal =
to answer the following relationships:

(a) 0.7001 ☐ 0.70001

(b) 289.5 ☐ 289.3

(c) 0.09 ☐ 0.090

(d) 456.2 ☐ 456.3

⬅ Previous   Next Question

Rounding Decimals   QUESTION 5

Round each number	Round to nearest hundredth	Round to nearest tenth	Round to the nearest whole number
21.487	(a)	(b)	(c)
33.580	(d)	(e)	(f)
60.135	(g)	(h)	(i)
54.955	(j)	(k)	(l)
290.555	(m)	(n)	(o)

⬅ Previous   Next Question

Converting   QUESTION 6

Convert each decimal to a fraction in lowest terms.
Click in the answer spaces and enter your answers in the form a/b .

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
.125	.2	.25	.375	.4	.5	.6	.75	.8

⬅ Previous   Next Question

Compare   QUESTION 7

Use the signs of comparison to answer these questions.

Click in the answer box & enter the correct symbol.

(a) .65 ☐ $\frac{2}{4}$

(b) .75 ☐ $\frac{5}{10}$

(c) .55 ☐ $\frac{2}{3}$

(d) .10 ☐ $\frac{2}{5}$

Less than <
Greater than >
Equal to =

Make sure everything is reduced to lowest terms in order to compare properly.

⬅ Previous   Next Question

Wedding Expenses

Rings:	$ 345.95
Wedding Dress:	351.45
Flowers:	867.18
Food & Beverage:	4789.90
Band:	1165.00
Photographer:	550.00

These wedding expenses add up to $ [____]

Previous   Next Question

Subtract:

(a)   231.4
    − 185.63
    [____]

Remember the concept of the zero placeholder!

Subtract:

(b) $635.18
    − 329.29
    $ [____]
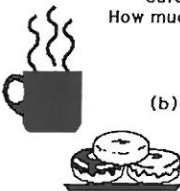
(c) If you use a $20 bill to pay for a purchase of $11.50, how much change will you receive? $ [____]

Previous   Next Question

A local doughnut shop runs a morning special on   For $2.50, you can purchase a cup of coffee and a plate of three doughnuts. Calculate the tax, which is 8%. How much will this breakfast cost you?

(a) tax = $ [____]

(b) total cost of breakfast = $ [____]

Previous   Next Question

Try to do these "in your head" without paper or pencil.

(a) $.2 \times .3$ = [____]

(b) $.3 \times .4$ = [____]

(c) $(.2)^2$ = [____]

(d) $(.3)^2$ = [____]

(e) $(.4)^2$ = [____]

Need a hint to know what those little two's are?

Previous   Next Question

CLICK IN THE BOX TO ENTER YOUR ANSWER.

(a) $5 \overline{)405}$

(c) $.5 \overline{)40.5}$

(b) $5 \overline{)40.5}$

(d) $.5 \overline{)405}$

Previous   Next Question

Write these numbers without using the power of 10.

(a) 76.0001×10^3 = [____]

(b) $.00001 \times 10^5$ = [____]

Previous   Next Question
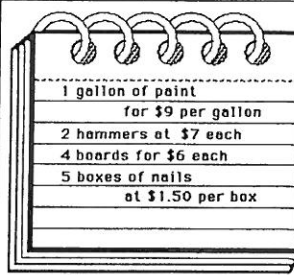
Write these numbers in Scientific Notation:

(a) 366.123 = [____] $\times 10^{[\ ]}$

(b) 78945612 = [____] $\times 10^{[\ ]}$

Previous   Next Question

---

1 gallon of paint for $9 per gallon
2 hammers at $7 each
4 boards for $6 each
5 boxes of nails at $1.50 per box

Your school theatre production spent the listed amounts on materials for the set and paid with three $20 bills. How much change did they receive?

$ [____]

Previous   SCORE THIS TEST   This is the end.

MathMedia®
Educational Software, Inc.

Unlocking the Mystery of Math

EASY TO USE **CURRICULUM BASED** **FOR ANY AGE** **FUN AND CHALLENGING**

Electronic Textbooks for Windows & Macintosh

BASIC MATH	ALGEBRA
GEOMETRY	ADVANCED MATH

Answers to Basic Math Series Tests:

Decimal Basics

Q1(a) 8
Q1(b) 0
Q1(c) 3

Q2(a) 1.25
Q2(b) 5.5
Q2(c) 300.1
Q2(d) 3.3
Q2(e) 3.003

Q3(i) B
Q3(ii) D
Q3(iii) G
Q3(iv) J
Q3(v) A

Q4(a) >
Q4(b) >
Q4(c) =
Q4(d) <

Q5(a) 21.49
Q5(b) 21.5
Q5(c) 21
Q5(d) 33.58
Q5(e) 33.6
Q5(f) 34
Q5(g) 60.14
Q5(h) 60.1
Q5(i) 60
Q5(j) 54.96

Q5(k) 55.0
Q5(l) 55
Q5(m) 290.56
Q5(n) 290.6
Q5(o) 291

Q6(a) 1/8
Q6(b) 1/5
Q6(c) 1/4
Q6(d) 3/8
Q6(e) 2/5
Q6(f) 1/2
Q6(g) 3/5
Q6(h) 3/4
Q6(i) 4/5

Q7(a) >
Q7(b) >
Q7(c) <
Q7(d) <

Q8   8069.48

Q9(a) 45.77
Q9(b) 305.89
Q9(c) 8.50

Q10(a) .20
Q10(b) 2.70

Q11(a) .06
Q11(b) .12
Q11(c) .04
Q11(d) .09
Q11(e) .16

Q12(a) 81
Q12(b) 8.1
Q12(c) 81
Q12(d) 810

Q13(a) 76000.1
Q13(b) 1

Q14(a) 3.66123×10^2
Q14(b) 7.8945612×10^7

Q15   5.50

Click in the box which best describes your preparation for this test and enter the letter "x".

☐ I have worked through the entire computer program for "Percent Basics".

☐ I have worked through some of the computer program for "Percent Basics".

☐ I have not worked through the computer program for "Percent Basics".

Print 'Percent Basics' TEST   ⇨ Begin TEST

QUESTION 1

(a) $\dfrac{3}{5} = \dfrac{\square}{100}$ and written as a percent equals $\boxed{}$ %

(Click in the answer boxes and enter your answers.)

(b) $\dfrac{7}{10} = \dfrac{\square}{100}$ and written as a percent equals $\boxed{}$ %

⇦ Previous   Next Question

QUESTION 2

If you make $15 an hour and you receive a 10% raise, how much is your raise? And, then what is your new salary?

(a)   Your raise is $ _____ .

(b)   Your new salary is $ _____ .

Click and enter your answers in the space provided. Answer in dollars and cents.

⇦ Previous   Next Question

QUESTION 3

Please use paper & pencil to work out all problems.

Click in the box and enter your answer.

(a)   What is 30% of 60? $\boxed{}$

(b)   What is 5% of 80? $\boxed{}$

(c)   What is 15% of 100? $\boxed{}$

(d)   What is 10% of 120? $\boxed{}$

⇦ Previous   Next Question

QUESTION 4

Click and enter your answers in each answer box.

(a)   15% of 50   = $\boxed{}$

(b)   15% of 100   = $\boxed{}$

(c)   15% of 60   = $\boxed{}$
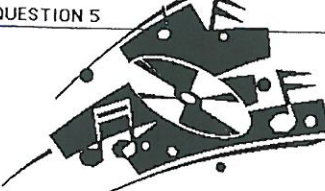
(d)   100% of 60   = $\boxed{}$

(e)   100% of 20   = $\boxed{}$

(f)   150% of 20   = $\boxed{}$

⇦ Previous   Next Question

QUESTION 5

Regular price $20.00

SALE CD's 20% off

Click in the answer boxes and enter your answers in dollars & cents.

(a)   You save $ $\boxed{}$

(b)   Your cost is $ $\boxed{}$

⇦ Previous   Next Question

QUESTION 6

A 15-year old boy spends his 24 hour day in the following manner:

15° represents ONE hour

Homework & free time

30°
15°
120°
135°

1 hour for showering, dressing, and eating
2 hours in commuting to school
9 hours in school
8 hours sleeping
and the remaining hours on homework and recreation.

Enter your answers in the blanks. Round to the nearest whole number.

There are ____ hours remaining in the day which represents ____ ° on the pie chart.
____ % of the day is spent sleeping.

⇦ Previous   Next Question

QUESTION 7

(a)   12 is $\boxed{}$ % of 60.

(b)   10 is $\boxed{}$ percent of 40?

(c)   5 is $\boxed{}$ percent of 25?

⇦ Previous   Next Question

QUESTION 8

(a) What percent of 100 is 80?

[ ] %

Remember the trick!
"is"
"of"

(b) What percent of 120 is 90?

[ ] %

QUESTION 9

(a) 200 is what percent of 100?

[ ] %

When the numerator is greater than the denominator, your answer will be greater than 100%.

(b) 1000 is what percent of 250?

[ ] %

QUESTION 10

(a) 15 is 10% of [ ]

(b) 20 is 50% of [ ]

(c) 50 is 25% of [ ]

QUESTION 11

In your head say, "Two times what is 50?"

(a) 50 is 200% of [ ]

(b) 500 is 500% of [ ]

(c) 50 is 100% of [ ]

(d) 125 is 250% of [ ]

QUESTION 12

A typical credit card company requires you to pay 10% of your credit card balance.
You send in $81.
How high was your credit card balance?

$ [ ]

QUESTION 13

A student wants to get an 80% average on his math tests.

(a) He has to score [ ] points total on the 5 tests for the semester to reach an 80% average.
If his first four test scores are 75, 75, 85, and 85, what score does he need on the fifth test to get the 80% average?

(b) [ ] %

QUESTION 14

If you shoot 40 baskets and make 15 of them, what percent of the baskets did you make?

Click in the box & enter your answer.

(a) [ ] %

How many baskets would you have to make to score 50% of the baskets?
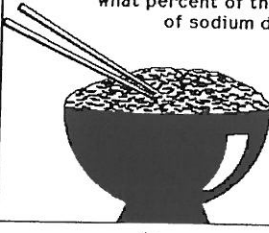
(b) [ ] baskets

QUESTION 15

If 2500 mg (milligrams) of sodium is the recommended daily value for a 2000 daily calorie diet, and this noodle dish has 250 mg of sodium per serving, what percent of the recommended daily value of sodium does this represent?

(a) [ ] %

If you are on a low sodium diet and are allowed only 1000 mg of sodium, what percent of the recommended daily value does this represent?

(b) [ ] %

QUESTION 16

FINAL WINTER CLEARANCE

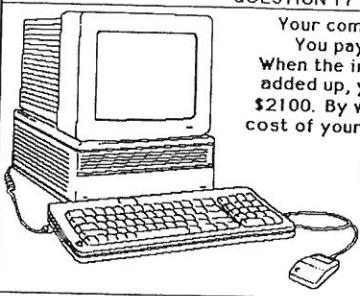25% OFF ALL ITEMS

A $20 sweater will cost you

(a) $_____

A $100 dress will cost you

(b) $_____

QUESTION 17

Your computer cost $1500. You pay by credit card. When the interest charges are added up, your computer costs $2100. By what percent did the cost of your computer increase?

[_____] %

QUESTION 18

The population in the United States in 1850 was approximately 25 million people. By 1950, the population had increased to approximately 150 million people. What was the percent increase in the population from 1850 to 1950?

[_____] %

QUESTION 19

Area in square miles	
Egypt	387,000
Iran	636,000
Israel	8,000
Saudi Arabia	927,000

(a) Egypt has _____ times as much area as Israel.

(b) Saudi Arabia has _____ times as much area as Egypt.

(c) The smallest country is _____ % of the largest country.

QUESTION 20

Analyze the following data:

	"Yes" Votes	"No" Votes	Undecided
June	40%	50%	10%
September	52%	38%	10%

(a) By what % did the "yes" vote increase from June to Sept? [____] %

(b) By what % did the "no" vote decrease from June to Sept? [____] %

(c) The "Undecided" vote is what percent of the June "yes" votes? [____] %

Date: 8/27/02   Student Name:

Score report for Percent Basics

Q1(a) [ ]	Q4(a) [ ]	Q7(a) [ ]	Q11(a) [ ]		Q20(a) [ ]
Q1(b) [ ]	Q4(b) [ ]	Q7(b) [ ]	Q11(b) [ ]	Q16(a) [ ]	Q20(b) [ ]
	Q4(c) [ ]	Q7(c) [ ]	Q11(c) [ ]	Q16(b) [ ]	Q20(c) [ ]
	Q4(d) [ ]		Q11(d) [ ]		
	Q4(e) [ ]	Q8(a) [ ]		Q17 [ ]	
Q2(a) [ ]	Q4(f) [ ]	Q8(b) [ ]	Q12 [ ]		
Q2(b) [ ]				Q18 [ ]	
	Q5(a) [ ]	Q9(a) [ ]	Q13(a) [ ]		Score:
	Q5(b) [ ]	Q9(b) [ ]	Q13(b) [ ]		
Q3(a) [ ]			Q14(a) [ ]	Q19(a) [ ]	/ 50
Q3(b) [ ]	Q6(a) [ ]	Q10(a) [ ]	Q14(b) [ ]	Q19(b) [ ]	
Q3(c) [ ]	Q6(b) [ ]	Q10(b) [ ]		Q19(c) [ ]	
Q3(d) [ ]	Q6(c) [ ]	Q10(c) [ ]	Q15(a) [ ]		[___] %
			Q15(b) [ ]		

Exit TEST   PRINT

EASY TO USE
CURRICULUM BASED

Unlocking the Mystery of Math

FOR ANY AGE
FUN AND CHALLENGING

MathMedia®
Educational Software, Inc.

Electronic Textbooks for Windows & Macintosh

| BASIC MATH | ALGEBRA |
| GEOMETRY | ADVANCED MATH |

Answers to Basic Math Series Tests:

Percent Basics

Q1(a) 60
Q1(b) 70

Q2(a) 1.50
Q2(b) 16.50

Q3(a) 18
Q3(b) 4
Q3(c) 15
Q3(d) 12

Q4(a) 7.5
Q4(b) 15
Q4(c) 9
Q4(d) 60
Q4(e) 20
Q4(f) 30

Q5(a) 4.00
Q5(b) 16.00

Q6(a) 4
Q6(b) 60
Q6(c) 33

Q7(a) 20
Q7(b) 25
Q7(c) 20

Q8(a) 80
Q8(b) 75

Q9(a) 200
Q9(b) 400

Q10(a) 150
Q10(b) 40
Q10(c) 200

Q11(a) 25
Q11(b) 100
Q11(c) 50
Q11(d) 50

Q12 810

Q13(a) 400
Q13(b) 80

Q14(a) 37.5
Q14(b) 20

Q15(a) 10
Q15(b) 25

Q16(a) 15
Q16(b) 75

Q17 40

Q18 500

Q19(a) 48
Q19(b) 2
Q19(c) 1

Q20(a) 12
Q20(b) 12
Q20(c) 25

Name: _____ **Date:** _____

Click in the box which best describes your preparation for this test
and enter the letter "x".

☐ I have worked through the entire computer program
for "Algebra Basics".

☐ I have worked through some of the computer program
for "Algebra Basics".

☐ I have not worked through the computer program
for "Algebra Basics".

Print 'Algebra Basics' TEST   ⇨ Begin TEST

Signed Numbers   QUESTION 1

Simplify:

Click in the box and enter your answer.

(a) $8 - 10 + 1 =$ _____

(b) $-(-2 - 1) =$ _____

(c) $-1 - 1 - (-1) =$ _____

(d) $6 - (-10) =$ _____

⇦ Previous   Next Question

Signed Numbers   QUESTION 2

Multiply:

Click in the box and enter your answer.

(a) $(-4)(-4) =$ _____

(b) $(6)(-10) =$ _____

(c) $(-2)(-1)(3) =$ _____

(d) $-(-9)(0)(-1) =$ _____

⇦ Previous   Next Question

Signed Numbers   QUESTION 3

Simplify:

Click in the box and enter your answer.

(a) $-(3+4) + 4 + (-7) =$ _____

(b) $-8[-12 + (-8)] =$ _____

(c) $80 \div (-4) =$ _____

(d) $-2(3 \div 3) =$ _____

⇦ Previous   Next Question

Order of Operations   QUESTION 4

Simplify:

Click in the box and enter your answer.

(a) $-4(3)^2 =$ _____

(b) $8 - 2(3)^2 =$ _____

(c) $3^2 + (-2)^2 =$ _____

(d) $(2 - 4)^3(2) =$ _____

⇦ Previous   Next Question

Variables   QUESTION 5

Let $x = -2$ and $y = 3$. Simplify each expression.

Click in the box and enter your answer.

(a) $4x - 4y =$ _____

(b) $6y - 2y =$ _____

(c) $3x(2y) =$ _____

(d) $2x - 4(2y) =$ _____

⇦ Previous   Next Question

Variables   QUESTION 6

Let $x = -2$ and $y = 3$. Simplify each expression.

Click in the box and enter your answer.

Hint:
$x^2 = x \text{ times } x$
$x^3 = x \text{ times } x \text{ times } x$

(a) $4x^2 - y =$ _____

(b) $x - 5y^2 =$ _____

(c) $x(2y)^2 =$ _____

(d) $2x^3 - y^2 =$ _____

⇦ Previous   Next Question

Equations ⚖   QUESTION 7

Solve for y: $y - 7 = 20$

click in the box enter your answer

(a) What do you add to both sides of this equation? _____

(b) What is the final answer? $y =$ _____

⇦ Previous   Next Question

Solve for y: $-7y = 56$

click in the box
enter your answer

(a) What do you divide both sides of this equation by?

(b) What is the final answer? $y =$ ☐

Solve for x: $\frac{5}{3}x = 15$

click in the box
enter your answer

(a) Multiply both sides of the equation by ☐

(b) What is the final answer? $x =$ ☐

Solve for x: $4(2x - 5) = 44$

(a) First, divide by ☐

(b) Then, add ☐ to both sides of the equation.

(c) Then, divide by ☐

(d) And, now, $x =$ ☐

Solve for x: $5x + 6 = 3x + 20$

$x =$ ☐

If $x = -2$ and $y = 4$ find:

(a) $x^2 + y^2 =$ ☐

(b) $(x + y)^2 =$ ☐

(c) $x^2 y^2 =$ ☐

(d) $(xy)^2 =$ ☐

Click & Enter
Your Answer

(a) $\sqrt{100}$ $=$ ☐

(b) $\sqrt{64}$ $=$ ☐

(c) $\sqrt{25} + \sqrt{49}$ $=$ ☐

(d) $\sqrt{36} + \sqrt{81}$ $=$ ☐

If $2^n = 8$, what is the value of 3^{n+1} ?

Click inside the box & enter your answer.

$3^{n+1} =$ ☐

Pretend you are on Mars and there is a new algebraic operation written with the symbol ✳.
You are told that the definition of this operation is:

$$a ✳ b = a^2 + 3ab - b^2$$

and you must find the value of

$$3 ✳ 4$$

$3 ✳ 4 =$ ☐

Answers to Basic Math Series Tests:

Algebra Basics

Q1(a)	-1		Q7(a)	7
Q1(b)	3		Q7(b)	27
Q1(c)	-1			
Q1(d)	16		Q8(a)	-7
			Q8(b)	-8
Q2(a)	16			
Q2(b)	-60		Q9(a)	3/5
Q2(c)	6		Q9(b)	9
Q2(d)	0			
			Q10(a)	4
Q3(a)	-10		Q10(b)	5
Q3(b)	160		Q10(c)	2
Q3(c)	-20		Q10(d)	8
Q3(d)	-2			
			Q11	7
Q4(a)	-36			
Q4(b)	-10		Q12(a)	20
Q4(c)	13		Q12(b)	4
Q4(d)	-16		Q12(c)	64
			Q12(d)	64
Q5(a)	-20			
Q5(b)	12		Q13(a)	10
Q5(c)	-36		Q13(b)	8
Q5(d)	-28		Q13(c)	12
			Q13(d)	15
Q6(a)	13			
Q6(b)	-47		Q14	81
Q6(c)	-72			
Q6(d)	-25		Q15	29

Name / Date card

Name: Date:

Click in the box which best describes your preparation for this test and enter the letter "x".

☐ I have worked through the entire computer program for "Geometry Basics".

☐ I have worked through some of the computer program for "Geometry Basics".

☐ I have not worked through the computer program for "Geometry Basics".

Print 'Geometry Basics' TEST ⇨ Begin TEST

Angles   QUESTION 1

What is the angle number of these angles?

Click in the box and enter your answer.

(a) ∠ABF = ∠ ☐

(b) ∠CFB = ∠ ☐

(c) ∠BED = ∠ ☐

⇦ Previous   Next Question

Protractor   QUESTION 2

Using this "protractor" click and enter the measure of each angle. Then classify each angle as acute, obtuse, right or straight.

SPELLING COUNTS!

ANGLE	MEASURE	CLASSIFICATION
∠AHE	(a) °	(d)
∠DHG	(b) °	(e)
∠FHG	(c) °	(f)

⇦ Previous   Next Question

Lines, Segments, Rays   QUESTION 3

Click in the box and enter your answer.

(a) How many endpoints does a ray have? ☐

(b) How many endpoints does a line have? ☐

(c) How many endpoints does a segment have? ☐

(d) Is $\overleftrightarrow{AB}$ the same as $\overleftrightarrow{BA}$? ☐

(e) Is $\overrightarrow{AB}$ the same as $\overrightarrow{BA}$? ☐

(f) Is $\overline{AB}$ the same as $\overline{BA}$? ☐

Answer Yes or No

⇦ Previous   Next Question

Classifying Triangles   QUESTION 4

Click in each box to the left and enter the letter that fits the description.

☐ (1) Isosceles

☐ (2) Scalene

☐ (3) Equilateral

Look at the "tick marks".

☐ (4) Right

☐ (5) Obtuse

☐ (6) Acute

⇦ Previous   Next Question

Perimeter   QUESTION 5

The perimeter of △ABC is 51.

Find:

Click in the box and enter your answer.

(a) the length of AB = ☐

(b) the length of AC = ☐

(c) the length of BC = ☐

⇦ Previous   Next Question

Perpendicularity   QUESTION 6

Given: $\overline{DB} \perp \overline{AC}$

$m\angle 2 = 50°$

Find:

Click in the box & enter your answer.

$m\angle 1 = $ ☐ °

⇦ Previous   Next Question

Parallel Lines   QUESTION 7

Given: a∥b

$m\angle 1 = 100°$

Find:

(a) $m\angle 7 = $ ☐ °

(b) $m\angle 4 = $ ☐ °

(c) $m\angle 6 = $ ☐ °

⇦ Previous   Next Question

Parallel Lines — QUESTION 8

Given: a ∥ b

(3x)°

60°

Find:

x = ☐ °

Previous   Next Question

Triangle Sum — QUESTION 9

Given diagram as marked.

90° 100°
c°
60° a° b° 50°

Find:

Click in the box & enter your answer.

a = ☐ °

b = ☐ °

c = ☐ °

Previous   Next Question

Similar Polygons — QUESTION 10

Given: △ABC ~ △DEF

F
40°
D   E

C
(2x)°
A   y°   B

Find:

Click and enter each part of your answer separately. Then click OK. Or take a HINT.

x = ☐

y = ☐

Ratio of x to y = ☐   Enter your answer as a simplified fraction in the form of a/b.

Previous   Next Question

Similar Polygons — QUESTION 11

Find the coordinates of Point F, in Quadrant I, so that △ABC ~ △DEF.

Quadrant I
C
A   B

Quadrant I
D   E

Find:

Click and enter each part of your answer separately.

F(x, y) = (☐ , ☐)

Previous   Next Question

Pythagorean Theorem — QUESTION 12

Click in the box and enter the missing side.

(a) 4   5   ☐

(b) ☐   13   5

(c) 15   ☐   8

(d) 24   25   ☐

(e) 45° $8\sqrt{2}$ 45°   ☐

(f) 30° $5\sqrt{3}$ 60°   ☐

(g) 8   10   ☐

Previous   Next Question

Tangents — QUESTION 13

How many common <u>internal</u> tangents can be drawn between Circle O and Circle P?

O   P   ☐

How many common <u>external</u> tangents can be drawn between Circle O and Circle P ?

☐

Previous   Next Question

Trapezoid — QUESTION 14

Find the missing angles of this isosceles trapezoid.

A   B

60°
D   C

Click in the box & enter your answer.

∠A = ☐ °

∠B = ☐ °

∠C = ☐ °

Previous   Next Question

Perimeter — QUESTION 15

20

4

13   4   ████   4

4

Click in Box
Type in Answer

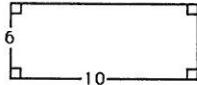Perimeter of Shaded Area = ☐

Previous   Next Question

The length of a rectangle is 4 units longer than its width. If its perimeter is 80, find the width.
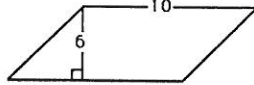
(Draw a diagram.)

Click in Box
Type in Answer

width = [ ]
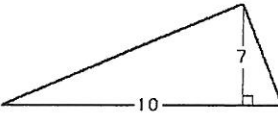
Previous

Next Question

Find the area of each figure.

6
10

10
6

(a) AREA = [ ]   (b) AREA = [ ]

Previous
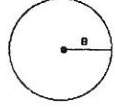
Next Question

7

10

AREA = [ ]

Previous

Next Question

(a) Find the Area of a circle whose radius is 8.

A = [ ] π

8
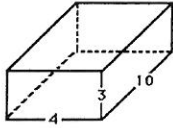
(b) Find the Circumference of a circle whose radius is 8.

C = [ ] π

Previous

Next Question

10
3
4

(a) Volume = [ ] cubic units

(b) Total Surface Area = [ ] square units

Previous

SCORE THIS TEST

The end...

Date: Student Name:

Score report for Geometry Basics

Q1(a)	Q3(a)	Q5(a)	Q10(a)	Q13(a)	Q19(a)	
Q1(b)	Q3(b)	Q5(b)	Q10(b)	Q13(b)	Q19(b)	
Q1(c)	Q3(c)	Q5(c)	Q10(c)			
	Q3(d)	Q6	Q11(a)	Q14(a)	Q20(a)	
	Q3(e)		Q11(b)	Q14(b)	Q20(b)	
Q2(a)	Q3(f)	Q7(a)	Q12(a)	Q14(c)		
Q2(b)		Q7(b)	Q12(b)			
Q2(c)		Q7(c)	Q12(c)	Q15	Score:	
Q2(d)	Q4(1)	Q8	Q12(d)	Q16		
Q2(e)	Q4(2)		Q12(e)		/ 60	
Q2(f)	Q4(3)		Q12(ee)	Q17(a)		
	Q4(4)	Q9(a)	Q12(f)	Q17(b)	[ ] %	
	Q4(5)	Q9(b)	Q12(ff)			
	Q4(6)	Q9(c)	Q12(g)	Q18		

Exit TEST   PRINT

Answers to Basic Math Series Tests:

Geometry Basics

Q1(a)	2	Q7(a)	80	Q14(a)	120
Q1(b)	8	Q7(b)	100	Q14(b)	120
Q1(c)	7	Q7(C)	80	Q14(c)	60
Q2(a)	120	Q8	40	Q15	34
Q2(b)	90				
Q2(c)	20	Q9(a)	30	Q16	18
Q2(d)	obtuse	Q9(b)	30		
Q2(e)	right	Q9(c)	120	Q17(a)	60
Q2(f)	acute			Q17(b)	60
		Q10(a)	20		
Q3(a)	1	Q10(b)	70	Q18	35
Q3(b)	0	Q10(c)	2/7		
Q3(c)	2			Q19(a)	64
Q3(d)	yes	Q11	(3, 3)	Q19(b)	16
Q3(e)	no				
Q3(f)	yes	Q12(a)	3	Q20(a)	120
		Q12(b)	12	Q20(b)	164
Q4(1)	B	Q12(c)	17		
Q4(2)	C	Q12(d)	7		
Q4(3)	A	Q12(e)	8		
Q4(4)	B	Q12(ee)	8		
Q4(5)	C	Q12(f)	5		
Q4(6)	A	Q12(ff)	10		
		Q12(g)	6		
Q5(a)	19				
Q5(b)	17	Q13(a)	2		
Q5(c)	15	Q13(b)	2		
Q6	40				