Want to find out which math path is right for your academic and career goals? Contact a CCC academic advisor at 503-594-3475 for help with choosing or switching your math path.

Transferring to a university? Choose the green or orange path.

MATH PATHWAYS

Clackamas Community College

CAREER TECH PATH (1-2 YEAR)

MTH 020 Fundamentals of Arithmetic II → **MTH 050** Technical Math I → **MTH 080** Technical Math II

Jobs in this path include:
Automotive, Welding, Dental, Horticulture and more.

STEM PATH (TRADITIONAL)

MTH 020 Fundamentals of Arithmetic II → **MTH 060** Algebra I → **MTH 065** Algebra II → **MTH 095** Algebra III → **MTH 111** College Algebra → **MTH 112** Trigonometry & Pre-Calculus → **MTH 251** Calculus I

Jobs in this path include:
Science, Engineering, Chemistry and more.

STATS PATH

MTH 020 Fundamentals of Arithmetic II → **MTH 098** College Math Foundations → **MTH 105** Math in Society → **MTH 243** Statistics I

Jobs in this path include:
Psychology, Communication, Marketing, English, Arts and more.

Reviewed on 11.2022

How well do you know **Arithmetic II** (MTH 020)?

Do these math problems look familiar to you?

Have you learned these types of problems in prior math classes?

If you reviewed this material, would you be able to solve most of these problems?

*If you answered **YES** to at least two of the above questions, you should consider taking the next level math course.*

***MTH-60** (STEM)*
***MTH-050** (TECH)*
***MTH-098** (STATS)*

1. Simplify positive and negative expressions with exponents and parenthesis:

a. $-5-(-11)$ **b.** $(-2)^3+(-3)(2)$

2. Simplify fraction, proportion and percent problems:

a. $\frac{2}{3}\div\frac{6}{7}$

b. $2\frac{1}{4}+1\frac{2}{3}$

c. $\left(\frac{2}{3}\right)^2-\left(\frac{4}{3}\right)\left(\frac{1}{3}\right)$

d. How many pieces of rope that are $\frac{3}{4}$ feet long can be cut from a piece of rope that is $6\frac{3}{4}$ feet long?

e. Solve for "*x*": $\frac{3}{4}=\frac{9}{x}$

f. What is 40% of 380?

g. What percent of 80 is 72?

3. Solve basic geometry problems:

a. Find the circumference and area of a circle with radius 8 cm.

b. Find the area of a triangle with height=6 in and base = 12 in.

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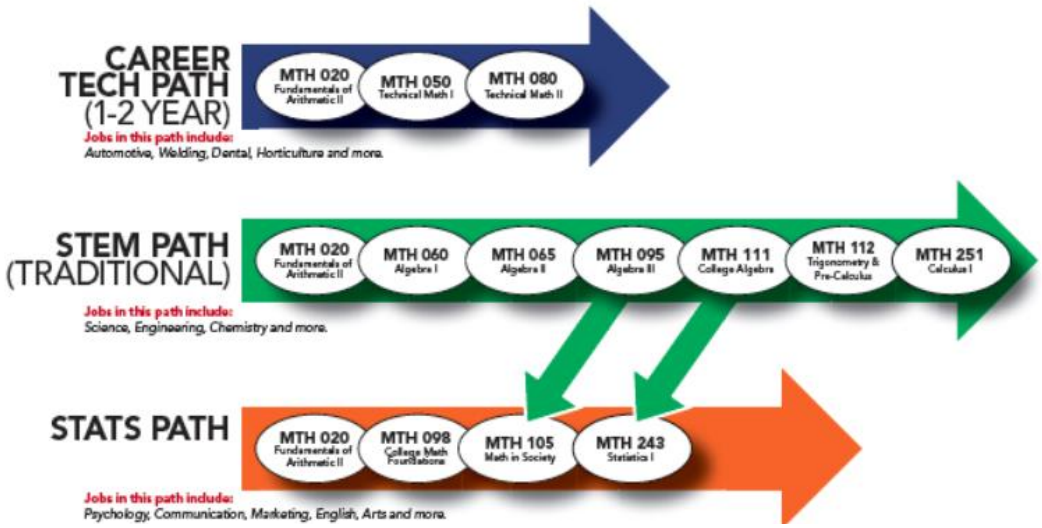

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Updated as of 10.2022

Answer Key

1a. 6

1b. -14

2a. $\frac{7}{9}$

2b. $3\frac{11}{12}$

2c. 0

2d. 9

2e. 12

2f. 152

2h. 90%

3a. C=50.3 cm

3a. A=201 cm^2

3b.36 in^2

How well do you know **Technical Math I** (MTH 050)?

Do these math problems look familiar to you?

Have you learned these types of problems in prior math classes?

If you reviewed this material, would you be able to solve most of these problems?

*If you answered **YES** to at least two of the above questions, you should consider taking the next level math course.*

***MTH-65** (STEM)*
***MTH-080** (TECH)*
***MTH-098** (STATS)*

1. Complete each exercise:

a. 0.825 is 12% of what number? **b**. 16 is what percent of 56?

2. The voltage E (in volts V) in an electric circuit is given by the product of the resistance R and the current I. $E = I \cdot R$

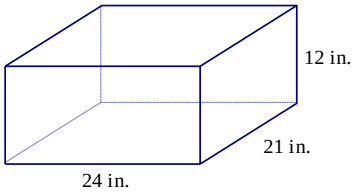
Find the voltage in a circuit if the resistance is $R = 850\,\Omega$, and the current is $I = 3.6\ \mu\text{A}$.

3. Convert, as indicated
a. 3 kg to mg
b. 15.7 cm to mm
c. 12°C to °F

4. On a stretch of I-5, in Washington, a driver may legally travel at 70 mph. How fast is this, in fps?

5. The torque of an engine is computed by multiplying the length of the arm on the crankshaft and the force applied by the piston's push rod. If the length of the crankshaft is 2.250 in. ± 0.025 in. and the force applied by the piston push rod is 3.75 lb ± 1.5 lb, calculate the minimum and maximum torque generated.

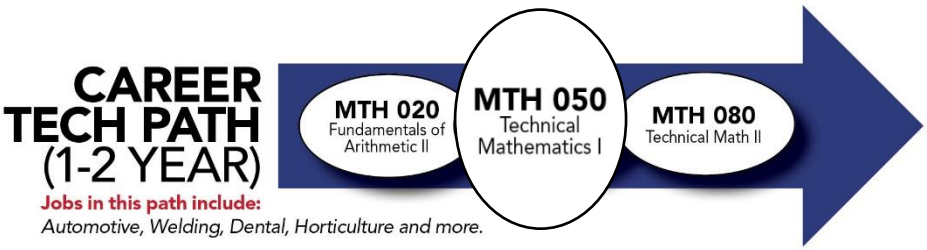
6. Find the **(a)** lateral surface area (**LSA**), **(b)** total surface area (**TSA**), and **(c)** volume of each figure



7. A set of doors are manufactured. Their mean width is 36.0 in. with a standard deviation of 0.11 in.

(a) Find the interval of door widths that contain 95% of the doors.

(b) If 500 doors are manufactured, how many are wider than the interval given in **(a)**?



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Updated as of 10.2022

Answer Key

1a. 6.875

1b. 28.6%

2. 3,060 V

3a. 3,000,000 mg

3b. 157 mm

3c. 53.6^{o} F

4. 102.67 fps

5. Min: 5 in.-lb; Max: 11.9 in.-lb

6. a. 1,080sq in; **b.** 2,088 sq in; **c.** 6,048 cubic in

7. a. 35.78 in. to 36.22 in. **b.** 12.5 (12 or 13) doors are too wide

How well do you know **Technical Math II** (MTH 080)?

Do these math problems look familiar to you?

Have you learned these types of problems in prior math classes?

If you reviewed this material, would you be able to solve most of these problems?

*If you answered **YES** to at least two of the above questions, you should consider taking the next level math course.*

Check the math requirements for your selected program or goal.

***MTH-065/095** (STEM)*
***MTH-098** (STATS)*

1. Simplify the expression.

$$4x^2+8x^2+2x-1-5x$$

2. Solve the equation.

$$9x-2=8x+5$$

3. A boat travels 36 mi downstream in 2 hr. Returning upstream, the boat takes 3 hr. Find the rate of the boat in still water and the rate of the current.

4. Solve the proportion.

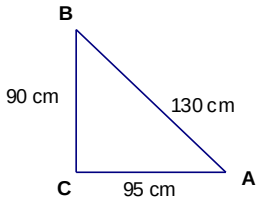
$$\frac{x}{6}=\frac{15}{2}$$

5. The scale on one map is $0.4\text{ in.}=10\text{ mi.}$ A second map's scale is $\frac{1}{2}\text{ in.}=5\text{ mi.}$

A rectangular feature on the first map measures 0.2 in. by 0.3 in.

What would its dimensions be on the second map?

6. Consider the right triangle shown.



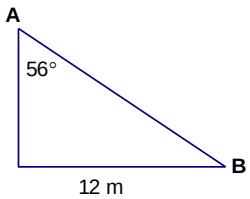
Evaluate (write your answers as fractions).

(a). $\sin \mathbf{A}$

Evaluate, to the nearest tenth degree.

(b). $m\angle \mathbf{A}$

7. Solve the right triangle (one decimal place).



CAREER TECH PATH (1-2 YEAR)
Jobs in this path include:
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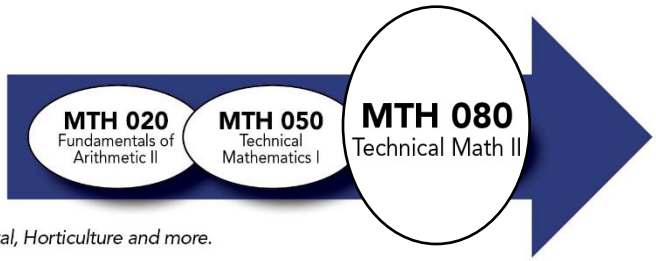

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Updated as of 10.2022

Answer Key

1. $12x^2 - 3x - 1$;

2. $x = 7$;

3. 15 mph (speed in still water);
3 mph (current)

4. X = 45

5. 0.5 in. by 0.75 in.

6. **(a)** $\frac{9}{13}$; **(b)** 43.8^{o}

7. $b = 8.1$ m, $c = 14.5$ m, $B = 34°$