

# Math Review Question

## Nevada High School Proficiency Exam

Content Standard: C1—Numbers, Number Sense, and Computation  
Depth of Knowledge Level: D1—Recall

**Simplify:**

$$\sqrt{3^2 + 3^2}$$

**A**       $2\sqrt{3}$

**B**       $3\sqrt{2}$

**C**       $6$

**D**       $9$

# Math Review Question

## Nevada High School Proficiency Exam

Content Standard: C2—Patterns, Functions, and Algebra  
Depth of Knowledge Level: D2—Skills and Concepts

What are the solutions of the inequality below?

$$|3x - 4| > 5$$

- A  $x < -3$  or  $x > \frac{1}{3}$
- B  $x < -\frac{1}{3}$  or  $x > 3$
- C  $-3 < x < \frac{1}{3}$
- D  $-\frac{1}{3} < x < 3$

# Math Review Question

## Nevada High School Proficiency Exam

Content Standard: C2—Patterns, Functions, and Algebra  
Depth of Knowledge Level: D2—Skills and Concepts

A system of equations is shown below.

$$\begin{cases} 3x - 2y = 8 \\ -x + 3y = -5 \end{cases}$$

What is the solution of the system of equations?

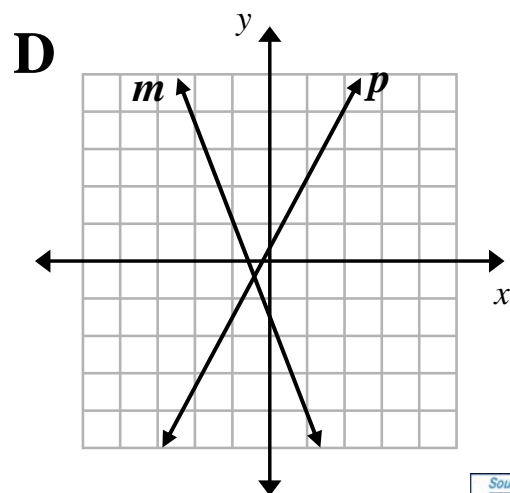
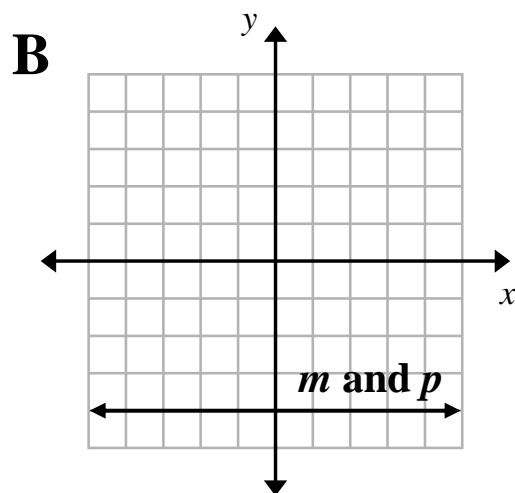
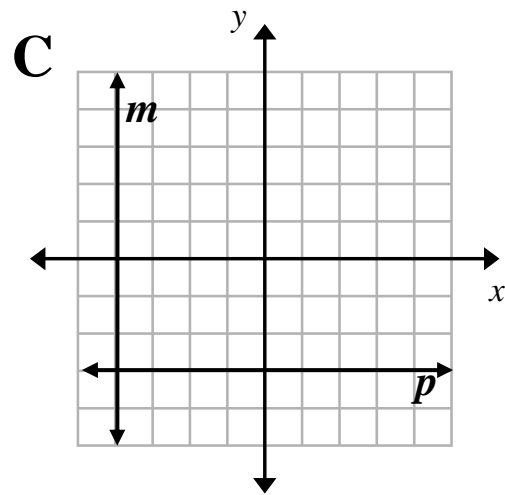
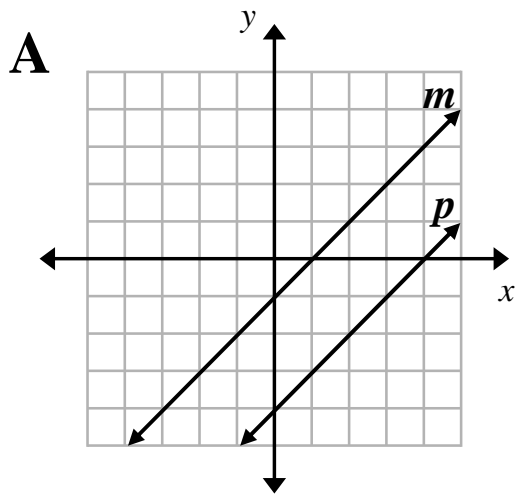
- A  $(4, 2)$
- B  $(2, -1)$
- C  $\left(8, -\frac{5}{2}\right)$
- D  $\left(\frac{14}{3}, 3\right)$

# Math Review Question

## Nevada High School Proficiency Exam

Content Standard: C2—Patterns, Functions, and Algebra  
Depth of Knowledge Level: D1—Recall

In which graph below do line  $m$  and line  $p$  represent a system of equations that has no solution?



# Math Review Question

## Nevada High School Proficiency Exam

Content Standard: C3—Geometry and Measurement  
Depth of Knowledge Level: D2—Skills and Concepts

The diameter of each tire produced by a factory is measured in inches (in). Each diameter ( $x$ ) must be within the range shown below.

$$30.010 \leq x \leq 30.020$$

What is the tolerance range of the diameter of a tire produced by the factory?

- A  $30.015 \pm 0.005$  in
- B  $30.010 \pm 0.010$  in
- C  $30.015 \pm 0.010$  in
- D  $30.010 \pm 0.015$  in



# Math Review Question

## Nevada High School Proficiency Exam

Content Standard: C3—Geometry and Measurement  
Depth of Knowledge Level: D2—Skills and Concepts

The formula for calculating the volume ( $V$ ) of a sphere with a given radius ( $r$ ) is shown below.

$$V = \frac{4}{3}\pi r^3$$

The volume of a sphere is  $36\pi \text{ cm}^3$ .  
What is the diameter of the sphere?

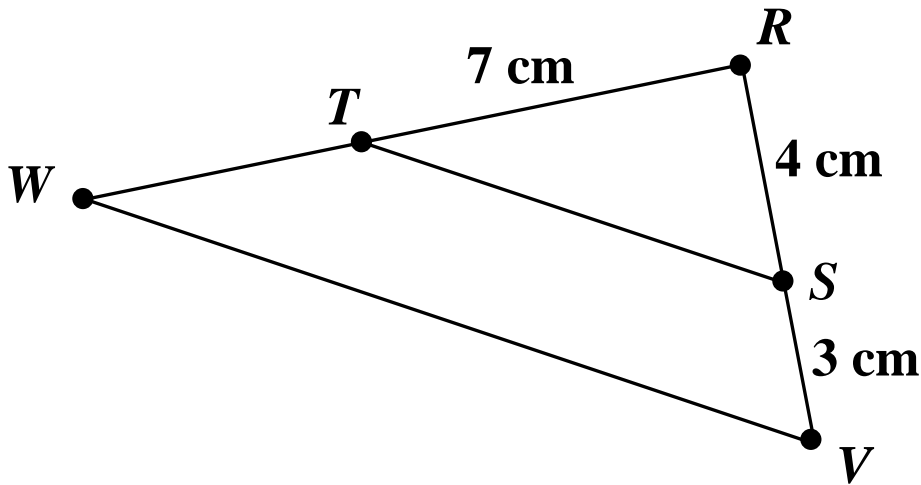
- A 3 cm
- B 6 cm
- C  $6\sqrt{3}$  cm
- D 18 cm

# Math Review Question

## Nevada High School Proficiency Exam

Content Standard: C3—Geometry and Measurement  
Depth of Knowledge Level: D1—Recall

In the diagram below, triangle  $RST$  is similar to triangle  $RVW$ .



What is the length of side  $\overline{RW}$  ?

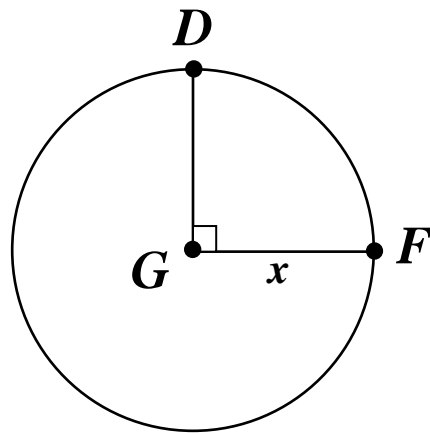
- A 5.25 cm
- B 10 cm
- C 12.25 cm
- D 13 cm

# Math Review Question

## Nevada High School Proficiency Exam

Content Standard: C3—Geometry and Measurement  
Depth of Knowledge Level: D2—Skills and Concepts

In the diagram below, point  $D$  and point  $F$  are on circle  $G$ .



Which expression describes the length of minor arc  $DF$  ?

- A  $\frac{\pi x}{2}$
- B  $\frac{\pi x^2}{4}$
- C  $x\sqrt{2}$
- D  $x\sqrt{3}$



# Math Review Question

## Nevada High School Proficiency Exam

Content Standard: C4—Data Analysis  
Depth of Knowledge Level: D2—Skills and Concepts

Kevin has 5 cubes. Each cube is a different color. Kevin will arrange the cubes side by side in a row. What is the total number of different arrangements of the 5 cubes that Kevin can make?

- A        1
- B        15
- C        25
- D        120



# Math Review Question

## Nevada High School Proficiency Exam

Content Standard: C4—Data Analysis  
Depth of Knowledge Level: D3—Strategic Thinking

There are 200 students in a high school senior class. Of the students in the senior class, 70 are taking physics and 120 are taking chemistry. Of the students in those two groups, 50 are taking both physics and chemistry. What is the probability that a randomly selected senior is taking neither physics nor chemistry?

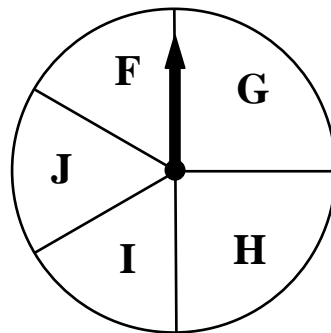
- A      0.10
- B      0.25
- C      0.30
- D      0.35

# Math Review Question

## Nevada High School Proficiency Exam

Content Standard: C4—Data Analysis  
Depth of Knowledge Level: D1—Recall

A spinner is divided into five sections. Section F, section J, and section I are all the same size. All together, these three sections cover half of the spinner, as shown below.



The arrow on the spinner is spun one time. What is the probability that the arrow stops in section F ?

- A  $\frac{1}{6}$
- B  $\frac{1}{5}$
- C  $\frac{1}{4}$
- D  $\frac{1}{3}$

# Math Test-Taking Strategies

## STRATEGY 1: Process of Elimination

Watch out for multiple step problems! Just because your answer is one of the choices, it does not mean that it is correct. Test writers often construct their incorrect answers not to be reasonable, but to anticipate common errors that are made by students in a hurry.

## STRATEGY 2: Measure It

When you are at a loss about how to do a geometry calculation, especially when you see diagrams, make a measure (physical or mental) and compare it against the answers given.

## STRATEGY 3: Draw It

Don't hesitate to draw a diagram that illustrates the information given. Remember to label your diagram.

## STRATEGY 4: Backsolve

Try each answer (substitute) to see which one works. Start from one of the middle choices and work out (that way if you are wrong, you can tell whether to go up or down). In other words, work backwards.

## STRATEGY 5: Table It

Overwhelmed by too much data? Organize the information in a table.

## STRATEGY 6: Plug-In Numbers at Random

Make an attempt at trial solutions by assigning an arbitrary value to each unknown. It is usually advisable not to use 0, 1 or 2 as they often produce unique situations.

## STRATEGY 7: Plug-In/Plot-It

When you are unsure how a graph would appear after looking at the equation or the description of an activity you are to convert to a graph, make an attempt by assigning your own values for points and plotting them.

## STRATEGY 8: The Wild Guess—Tame It!

Some test-takers develop their own method of guessing including the following: answering "c" for everything or answering *eeny, meeny, miny, mo*. Develop your own guessing methods based on good test-taking strategies.