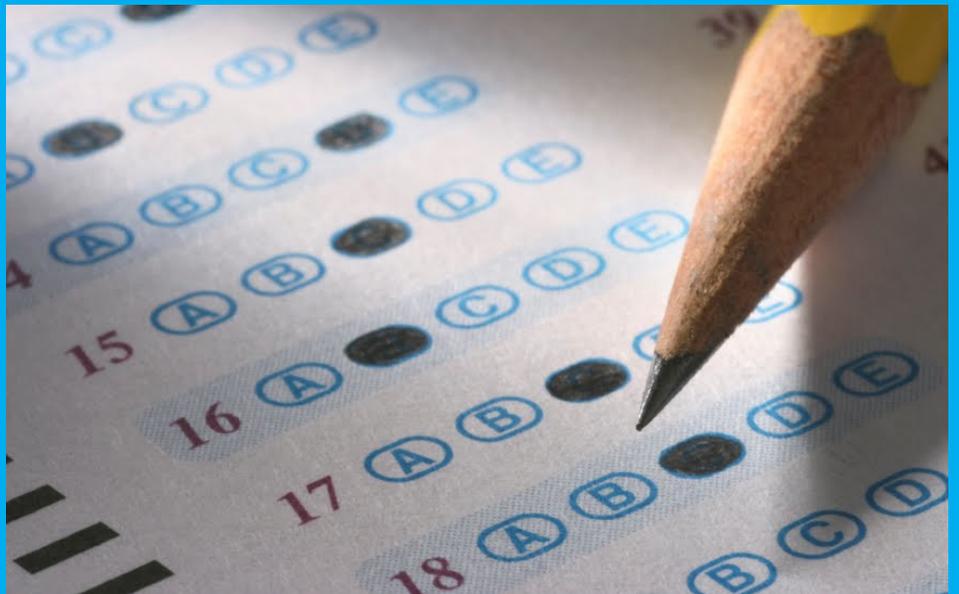


# Arizona AIMS Guide

by Laura Petersen M.A.E.D.

## STUDENT TUTOR

**Informational  
Guide to  
Help Parents  
Help Their Kids  
*Raise Their  
Scores***





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## AUTHOR INTRODUCTION

### **Laura Petersen Biography:**

#### **EDUCATION**

- B.A. in Psychology with a minor in German (UCLA) *magna cum laude*
- M.A.E.D. in Secondary Education (UOP) with *high honors*
- Certified to teach Mathematics and Psychology in Arizona and California

#### **TEACHING EXPERIENCE**

- K-12 Teaching Experience: Willis Junior High and Hamilton High School in Chandler, Arizona
- Awarded “Teacher of the Month” in September of 2009
- College Teaching Experience: Rio Salado Community College and Ashford University
- Substitute Teaching Experience: all grades, most subjects K-12
- Tutoring Experience: all grades and all subjects K-12

#### **PROFESSIONAL ASSOCIATIONS**

- Ambassador with the Chandler Chamber of Commerce
- Member of the American Psychological Association
- Member of National Association of Women Business Owners

#### **OTHER COOL FACTS:**

- PADI Certified Rescue Scuba Diver
- Studied abroad in Germany, Mexico, and Costa Rica
- Flew in Zero Gravity flight to inspire kids in science, technology, engineering, and mathematics
- Continues to take two classes per semester as a life-long learner

### **Disclaimer:**

The author of this guide and Student Tutor LLC do not guarantee certain scores by following these tips in this guide. If followed, we are confident that kids will see improvement, but there are too many factors to set forth guarantees.

Also, we are in no way tied to the creation or updating of the official exam components, policies, or procedures. Please check Arizona Department of Education for official updates or specific details and questions regarding the AIMS test.

**NOTE: Per Arizona Department of Education website, AIMS testing will transition to PARCC (Partnership for Assessment of Readiness for College and Careers) starting in 2015.**

## IMPORTANT RESOURCES – OFFICIAL AIMS INFORMATION

### Arizona Department of Education

**Mailing Address:**

Arizona Department of Education  
Standards-Based Teaching & Learning  
1535 W. Jefferson, Bin 5  
Phoenix, Arizona 85007

**Tel:** (602) 364-2335

**Fax:** (602) 364-0902

**Main Website:** <http://www.azed.gov/>

**Common Core Standards:** <http://www.azed.gov/azcommoncore/>

**Family ToolBox:** <http://www.azed.gov/azcommoncore/families/familiestoolbox/>

**AIMS Overview:** <http://www.azed.gov/standards-development-assessment/>

**AIMS Sample Tests:** <http://www.azed.gov/standards-development-assessment/aims/sample-for-students/>

**Info on new PARCC test (rolling out in 2015):**  
<http://www.azed.gov/standards-development-assessment/parcc-assessment/the-parcc-assessment/>



## 1. What is AIMS?

**AIMS stands for Arizona’s Instrument to Measure Standards.** It is a standards-based assessment test to measure students’ competencies in **Reading, Writing, Math, and Science** according to the Arizona Content Standards developed by the Arizona Department of Education.

**All students must take the AIMS.** There is no opting out if your kids go to public or charter schools. Additionally, AIMS is a required component to graduate from high school. Scholarships may also be available for those students who do well on the exams.

## 2. When does AIMS testing occur in Arizona?

### High School AIMS:

- Writing and Reading (October & February)
- Math and Science (October & April)

### Stanford 10, Grade 9:

- Language, Reading Comprehension, and Mathematics testing must be scheduled for 1 or 2 days within a window (in April)

### AIMS 3-8th Grade:

- Reading, Writing, Math, and Science AIMS tests fall on four days within window (in April)

### Stanford 10, Grade 2:

- Language, Reading Comprehension, and Mathematics testing scheduled for 2 or 3 days (in April)

**ARIZONA DEPARTMENT OF EDUCATION  
MULTI-YEAR TESTING CALENDAR FOR 2012-2014**

		2012-13	2013-14
<b>FALL TESTING</b>	<b>AIMS HS</b>		
	WRITING	T - OCTOBER 23	T - OCTOBER 22
	READING	W - OCTOBER 24	W - OCTOBER 23
	MATHEMATICS	TH - OCTOBER 25	TH - OCTOBER 24
<b>SPRING TESTING</b>	<b>AIMS 3-8</b>		
	WRITING, READING, MATHEMATICS, AND SCIENCE 3 OR 4 DAYS WITHIN WINDOW DEPENDING ON GRADE	APRIL 15 - 26	APRIL 7 - 25
	<b>AIMS HS</b>		
	WRITING	M - FEBRUARY 25	M - FEBRUARY 24
	READING	T - FEBRUARY 26	T - FEBRUARY 25
	MATHEMATICS	T - APRIL 9	T - APRIL 8
	SCIENCE	W - APRIL 10	W - APRIL 9
	<b>STANFORD 10</b>		
	GRADE 2 2 OR 3 DAYS WITHIN WINDOW	APRIL 15 - 26	APRIL 7 - 25
	GRADE 9 1 OR 2 DAYS WITHIN WINDOW	APRIL 8 - 26	APRIL 7 - 25
	<b>AIMS A</b>		
	READING AND MATHEMATICS GRADES 3-8 AND 10 SCIENCE GRADES 4, 8, AND 10	FEBRUARY 18 - MARCH 29	FEBRUARY 17 - MARCH 31
	<b>AZELLA</b>		
	ELL, FEP1, AND FEP2	JANUARY 14 - FEBRUARY 22	NOT YET SCHEDULED
<b>NAEP</b>			
NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS MATHEMATICS AND READING GRADES 4, 8, 12, AND TEL (8)	JANUARY 28 - MARCH 8	N/A	
US HISTORY, GEOGRAPHY, CIVICS, AND SPECIAL STUDIES GRADES 4, 8, AND 12	N/A	JANUARY - MARCH	

### 3. What are the “scores” my kid can get on the AIMS?

AIMS scores are not numeric like the SATs. Instead students can receive:

**Exceeds**

**Meets**

**Approaches**

**Falls Far Below**

These categories refer to how they perform on the test compared to the standards for their grade level. Johnny “exceeds” standards in 7th grade reading and Julia “meets” standards in her 4th grade math.

### 4. I want more detailed information on AIMS 3-8. Where should I go?

Here is a pdf produced specifically on the topic by the ADE.

<http://www.azed.gov/wp-content/uploads/PDF/AIMSDPAColor.pdf>

### 5. I want more information on high school AIMS report. Where should I go?

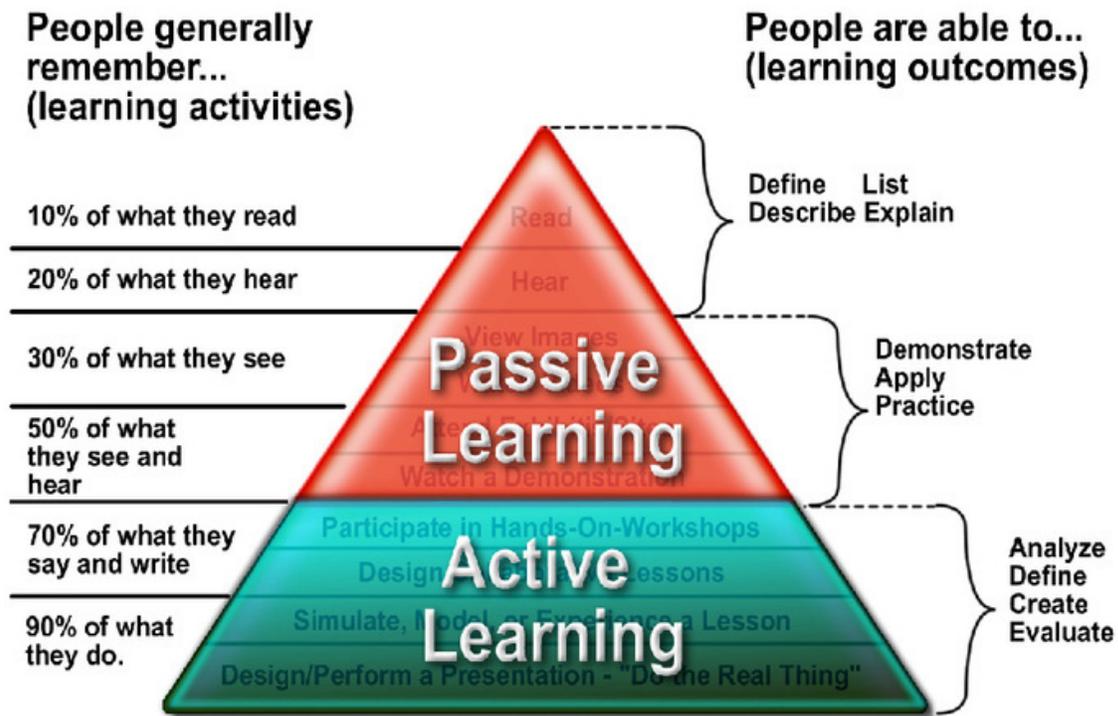
Here is a pdf produced specifically on the topic by the ADE.

<http://www.azed.gov/wp-content/uploads/PDF/AIMSHSParentGuide.pdf>

## HOW CAN I HELP MY KID PREPARE?

### GENERAL TIPS:

We know from **psychological research** that **studying for exams is most effective with spread out over time, connected to past learning, and engaged with in deep ways through critical thinking, discussion, analysis, and review.**



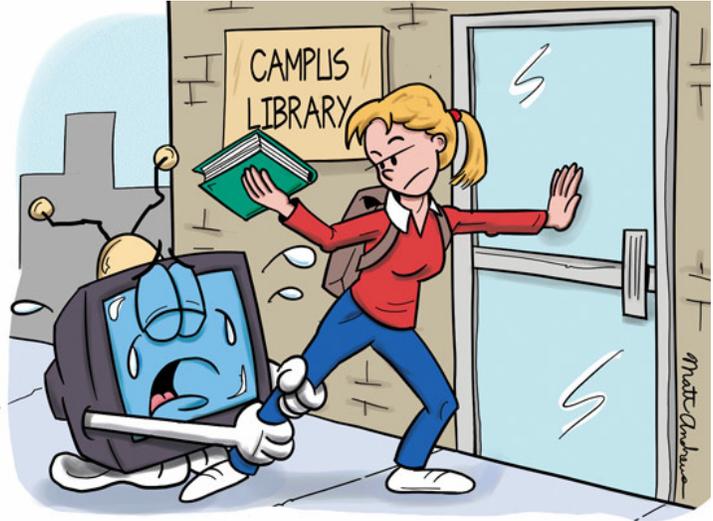
For this reason, studying for the AIMS test best **starts early!** In fact, all these tips and habits below support academic success in standardized testing and beyond.

### In School

- **Require regular school attendance**
- Ensure student **arrives on time and does not leave early**
- Emphasize the **importance of working hard and achieving academic goals.** Note: per research it is best to **praise behavior rather than character traits.** Instead of “You are so smart!” say, “You worked so hard and got the right answer. Great work!”
- Help **set and monitor progress on academic goals**

## At Home

- **Read** aloud to your kids, beginning at an early age, encouraging them to **read to you** when they get the skills
- Encourage **good study habits**
- Set aside a specific time for homework in a **quiet location away from distractions** (best if also not near toys, TVs, heavy foot traffic areas)
- **Talk with your kids often about school**
- Provide **activities at home that relate to school learning**. (There are study books available for purchase online or from any local bookstore. You may even be able to check out a study book for free from the local library!)
- Provide your kids a **balanced, nutritional diet**. This goes for all the time, but especially before the exam.
- Make sure kids get **adequate rest each night**. Same as above.
- **Support and encourage** your child. Hold back criticism.
- **Do not allow kids the excuse** “I am just not good at tests” to permeate their minds. **Tests are a skill like anything else. With preparation, practice, and confidence, a good grade is highly likely.**



## With the School

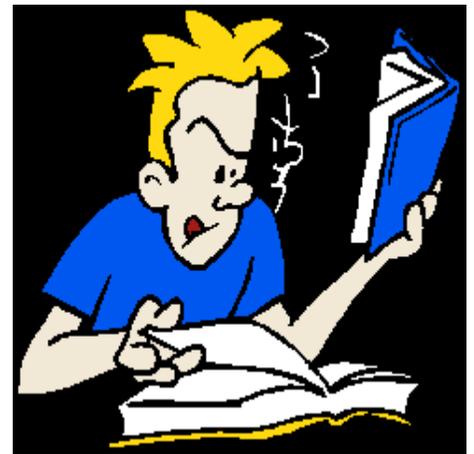
- **Communicate** often with your child’s teachers
- **Volunteer** to help in your child’s classroom (if your schedule permits and if volunteers are needed/welcomed)
- **Clarify** when testing will occur at your child’s school (some schools and districts vary on exact dates and times)

## Extra Support:

- Many schools and/or specific teachers offer **free after-school tutoring and review** prior to AIMS testing.
- If your child needs more help than that, **consider tutoring outside of school**. There are many options depending on your budget and child's learning style (group lessons, private lessons, in-home, at a library, at a tutoring center, etc).

## Day of the Test:

- **Pack snacks**
  - Many teachers will allow eating, even during the test! If not during, then they will allow it during break times.
  - Don't let a grumbling stomach to be the reason your child cuts out early from an unfinished test or cannot concentrate because of hunger pangs.
- **Pack a water bottle**
  - Make sure that the bottle does not have anything written on it (**proctors will be on the look out for cheat sheets!**).
  - Staying hydrated will make your kid **feel better and prevent headaches** that could affect his/her ability to write and calculate well.
- **Dress in layers**
  - Many teachers crank up the AC or heater (and testing is often done in a classroom unfamiliar to the student). Prevent this being an issue by **wearing layers they can add or subtract**.



## During the Exam Tips:

- **Supplies**
  - multiple #2 pencils with good erasers
  - a highlighter (if allowed) Kids can use it to highlight key words, phrases, and/or instructions. This visual help can make the difference between answering all parts of the prompt and forgetting a key piece of information.
- **Kids should take their time.**

They have to complete their test by the “end of the school day.” Teachers stay late, even past the usual end bell, to proctor exams when students need more time than allotted by the normal bell schedule.

- **Ignore others finishing around them.**  
If they rushed through, they may be retaking the test next year. Do not feel pressured to hurry. Take the time needed.
- **Don't know an answer? Skip it and come back later.**
- **For multiple choice questions:**
  - 1: read entire question (before looking at answer)
  - 2: come up with own answer to problem
  - 3: then look at answers offered...read all of them before picking one
  - 4: eliminate some that you know are wrong (and physically cross them off as you go)
  - 5: pick best answer (make educated guess if you are not 100% sure)
- **Use the AIMS Math Reference Sheet!**  
*Included in the test is this two-sided formula sheet with all the math formulas your child may need to use to complete the mathematics section.*

**The fear of forgetting formulas is now no problem.**

**Extra Tip:**  
**Rip the reference sheet out of the book and keep it to your side for easy reference throughout the whole exam.**

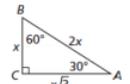
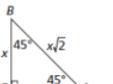
**This is allowed.**

As long as students return it to the booklet before turning the test back in, they are allowed to rip it out.

\* **It will save students time and annoyance by not having to flip back and forth every time they want to look something up.**

**AIMS Mathematics Reference Sheet**

Additional Formulas	
Distance, Rate, Time Formula: $d = \text{distance}, r = \text{rate}, t = \text{time}$ $d = rt$	Sum of the measures of the interior angles of a convex polygon with $n$ sides: $S = (n - 2)(180^\circ)$
Permutations of $n$ objects taken $r$ at a time: $nPr = \frac{n!}{(n-r)!}$	Combinations of $n$ objects taken $r$ at a time: $nCr = \frac{n!}{(n-r)!r!}$
Length of a circular arc: Length of $\widehat{AB} = 2\pi r \left(\frac{m\widehat{AB}}{360^\circ}\right)$	Area of a sector: $A = \pi r^2 \left(\frac{\text{degrees in corresponding arc}}{360^\circ}\right)$
Circumference: $C = \pi d$ or $C = 2\pi r$	Area of a circle: $A = \pi r^2$

Trigonometric Ratios	30°-60°-90° Triangle Relationships	45°-45°-90° Triangle Relationships
 $\sin A = \frac{a}{c}$ $\cos A = \frac{b}{c}$ $\tan A = \frac{a}{b}$		

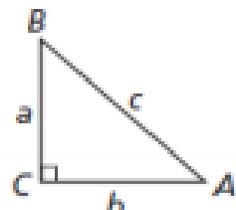
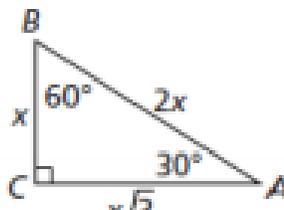
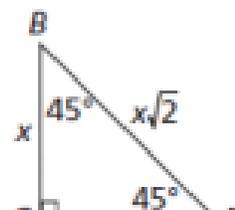
**AIMS Mathematics Reference Sheet**

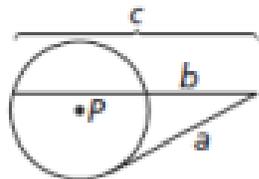
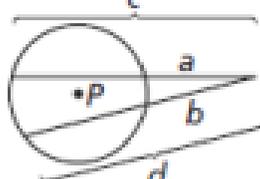
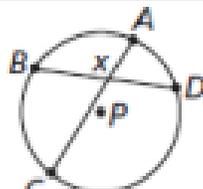
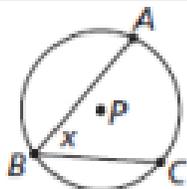
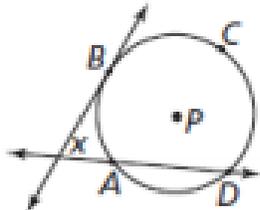
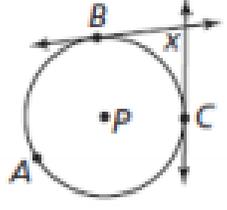
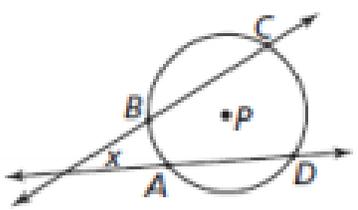
Key		Formulas for Area	
$b = \text{base}$	$d = \text{diameter}$	Circle	$A = \pi r^2$
$h = \text{height}$	$r = \text{radius}$	Parallelogram	$A = bh$
$l = \text{length}$	$\ell = \text{slant height}$	Rectangle	$A = lw$
$w = \text{width}$	$B = \text{area of base}$	Trapezoid	$A = \frac{1}{2}h(b_1 + b_2)$
Use 3.14 or $\frac{22}{7}$ for $\pi$ .		Triangle	$A = \frac{1}{2}bh$
Volume (V)		Surface Area (SA)	
Pyramid	$V = \frac{1}{3}Bh$		$SA = B + \frac{1}{2}Pl$
Right Cone	$V = \frac{1}{3}\pi r^2h$		$SA = \frac{1}{2}(2\pi r)\ell + \pi r^2$ or $SA = \pi r\ell + \pi r^2$
Right Cylinder	$V = \pi r^2h$		$SA = 2\pi r^2 + 2\pi rh$
Right Prism	$V = Bh$		$SA = 2B + Ph$
Sphere	$V = \frac{4}{3}\pi r^3$		$SA = 4\pi r^2$
Quadratics		Coordinate Geometry and Linear Equation Forms	
For all quadratics $ax^2 + bx + c = 0$		Given: Points $S(x_1, y_1), T(x_2, y_2)$	
Quadratic Formula: $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$		Distance between two points: $ST = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$	
The x-coordinate for the vertex of a quadratic: $-\frac{b}{2a}$		Midpoint between two points: Midpoint = $\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$	
Pythagorean Theorem		Slope of line through two points: $m = \frac{y_2 - y_1}{x_2 - x_1}$	
 $a^2 + b^2 = c^2$		Point-Slope Form: $y - y_1 = m(x - x_1)$	
Arithmetic Sequences		Standard or General Form: $Ax + By = C$	
Explicit formula for an arithmetic sequence: $a_n = a_1 + d(n - 1)$ $d = \text{common difference}$		Slope-Intercept Form: $y = mx + b$	
Interest Formulas			
$I = \text{interest earned}, P = \text{principal}, r = \text{annual interest rate}, t = \text{time in years}, n = \text{number of times compounded per year}, A = \text{total amount after time } t$			
Simple Interest: $I = Prt$			
$A = P(1 + rt)$			
Compound Interest: $A = P\left(1 + \frac{r}{n}\right)^{nt}$			

Full sized reference sheets on next pages

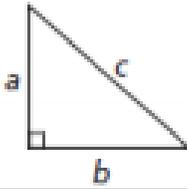
# AIMS Mathematics Reference Sheet

Additional Formulas	
Distance, Rate, Time Formula: $d = \text{distance}, r = \text{rate}, t = \text{time}$ $d = rt$	Sum of the measures of the interior angles of a convex polygon with $n$ sides: $S = (n - 2)(180^\circ)$
Permutations of $n$ objects taken $r$ at a time: ${}^n P_r = \frac{n!}{(n - r)!}$	Combinations of $n$ objects taken $r$ at a time: ${}^n C_r = \frac{n!}{(n - r)! r!}$
Length of a circular arc: Length of $\widehat{AB} = 2\pi r \left( \frac{m\widehat{AB}}{360^\circ} \right)$	Area of a sector: $A = \pi r^2 \left( \frac{\text{degrees in corresponding arc}}{360^\circ} \right)$
Circumference: $C = \pi d$ or $C = 2\pi r$	Area of a circle: $A = \pi r^2$

Trigonometric Ratios	30°-60°-90° Triangle Relationships	45°-45°-90° Triangle Relationships
 $\sin A = \frac{a}{c}$ $\cos A = \frac{b}{c}$ $\tan A = \frac{a}{b}$		

 $\frac{c}{a} = \frac{a}{b} \text{ or } a^2 = bc$	 $\frac{d}{a} = \frac{c}{b} \text{ or } ac = bd$	 $a = b$
 $\frac{a}{b} = \frac{c}{d} \text{ or } ad = bc$	 $m\angle x = \frac{1}{2} (m\widehat{AB} + m\widehat{CD})$	 $m\angle x = \frac{1}{2} m\widehat{AC}$
 $m\angle x = \frac{1}{2} (m\widehat{BCD} - m\widehat{AB})$	 $m\angle x = \frac{1}{2} (m\widehat{BAC} - m\widehat{BC})$	 $m\angle x = \frac{1}{2} (m\widehat{CD} - m\widehat{AB})$

# AIMS Mathematics Reference Sheet

Key		Formulas for Area	
$b$ = base $h$ = height $l$ = length $w$ = width	$d$ = diameter $r$ = radius $\ell$ = slant height $B$ = area of base $P$ = perimeter of base	Circle $A = \pi r^2$	$A = \pi r^2$
Use 3.14 or $\frac{22}{7}$ for $\pi$ .		Parallelogram $A = bh$	$A = bh$
		Rectangle $A = lw$	$A = lw$
		Trapezoid $A = \frac{1}{2}h(b_1 + b_2)$	$A = \frac{1}{2}h(b_1 + b_2)$
		Triangle $A = \frac{1}{2}bh$	$A = \frac{1}{2}bh$
Name	Volume ( $V$ )	Surface Area ( $SA$ )	
Pyramid	$V = \frac{1}{3}Bh$	$SA = B + \frac{1}{2}P\ell$	
Right Cone	$V = \frac{1}{3}\pi r^2h$	$SA = \frac{1}{2}(2\pi r)\ell + \pi r^2$ or $SA = \pi r\ell + \pi r^2$	
Right Cylinder	$V = \pi r^2h$	$SA = 2\pi r^2 + 2\pi rh$	
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For all quadratics $ax^2 + bx + c = 0$ Quadratic Formula: $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ The $x$ -coordinate for the vertex of a quadratic: $-\frac{b}{2a}$		Given: Points $S(x_1, y_1), T(x_2, y_2)$ Distance between two points: $ST = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$ Midpoint between two points: Midpoint = $\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$ Slope of line through two points: $m = \frac{y_2 - y_1}{x_2 - x_1}$ Point-Slope Form: $y - y_1 = m(x - x_1)$ Standard or General Form: $Ax + By = C$ Slope-Intercept Form: $y = mx + b$	
Pythagorean Theorem			
 $a^2 + b^2 = c^2$			
Arithmetic Sequences			
Explicit formula for an arithmetic sequence: $a_n = a_1 + d(n - 1)$ $d$ = common difference			
Interest Formulas			
$I$ = interest earned, $P$ = principal, $r$ = annual interest rate, $t$ = time in years, $n$ = number of times compounded per year, $A$ = total amount after time $t$ Simple Interest: $I = Prt$ $A = P(1 + rt)$ Compound Interest: $A = P\left(1 + \frac{r}{n}\right)^{nt}$			

## FINAL TIP: PRACTICE TESTS

Instead of copy and paste all the practice tests available into this e-guide, here is where you can find materials:

1. <http://www.azed.gov/standards-development-assessment/aims/support-materials/>

You will see this in the middle of the page ----->

- These are links to actual tests that were used for AIMS in past years.
- Use them with your kids as practice tests and study guides.

### AIMS Support Materials

- [AIMS Sample Items for Students](#)
- [AIMS HS Released Items](#)
- [AIMS 3-8 Released Items](#)
- [AIMS Math Reference Sheet](#)
- [AIMS Science Reference Sheet \(Grade 8 \)](#)
- [AIMS Writing](#)

2. <https://www.ideal.azed.gov/p/aims> **AIMS Resources**

Here are more sample problems and guides for each grade level and subject.

Awesome resource!!

New AIMS sample tests are now available.

Grade	Online Sample Tests			PDF Test Guides and Sample Tests		
	Math	Reading	Science	Math	Reading	Science
<b>3rd Grade</b>	<a href="#">Math</a>	<a href="#">Reading</a>		<a href="#">Math</a>	<a href="#">Reading</a>	
<b>4th Grade</b>	<a href="#">Math</a>	<a href="#">Reading</a>	<a href="#">Science</a>	<a href="#">Math</a>	<a href="#">Reading</a>	<a href="#">Science</a>
<b>5th Grade</b>	<a href="#">Math</a>	<a href="#">Reading</a>	<a href="#">Writing</a>	<a href="#">Math</a>	<a href="#">Reading</a>	<a href="#">Writing</a>
<b>6th Grade</b>	<a href="#">Math</a>	<a href="#">Reading</a>	<a href="#">Writing</a>	<a href="#">Math</a>	<a href="#">Reading</a>	<a href="#">Writing</a>
<b>7th Grade</b>	<a href="#">Math</a>	<a href="#">Reading</a>	<a href="#">Writing</a>	<a href="#">Math</a>	<a href="#">Reading</a>	<a href="#">Writing</a>
<b>8th Grade</b>	<a href="#">Math</a>	<a href="#">Reading</a>	<a href="#">Science</a>	<a href="#">Math</a>	<a href="#">Reading</a>	<a href="#">Science</a>
<b>High School</b>	<a href="#">Math</a>	<a href="#">Reading</a>	<a href="#">Science</a>	<a href="#">Math</a>	<a href="#">Reading</a>	<a href="#">Science</a>
		<a href="#">Writing</a>			<a href="#">Writing</a>	

For more information about [AIMS Testing and Resources](#).

## Closing Thoughts

**Practice really does make perfect -- err...permanent!**

Perfect is not the goal to which to aspire.

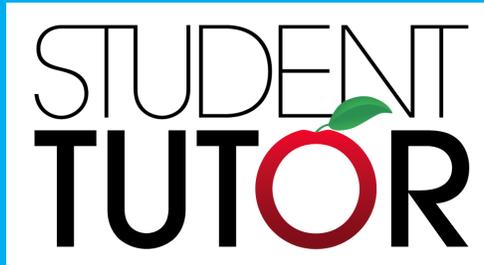
Instead, kids should aspire toward competence, confidence, connectedness, and cooperation.

If you have specific questions, please contact me at [laura@student-tutor.com](mailto:laura@student-tutor.com).

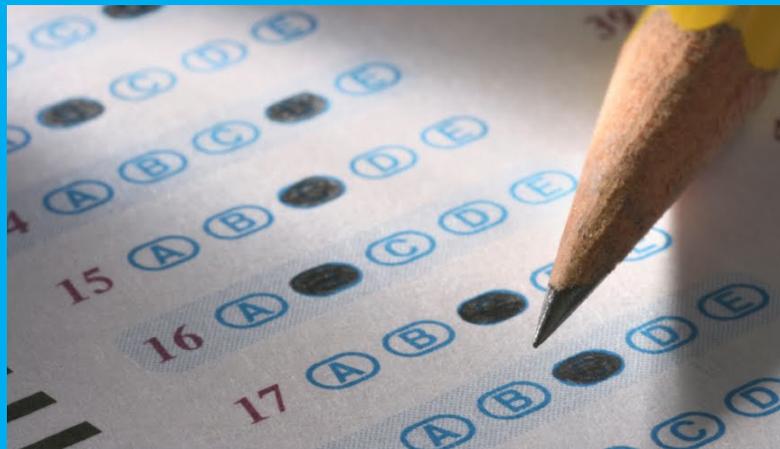
**GOOD LUCK!!**

# Arizona AIMS Guide

by Laura Petersen M.A.E.D.



## Informational Guide to Help Parents Help Their Kids *Raise Their Scores*



**You always pass failure on the way to success.**  
-Mickey Rooney

**Don't let what you can't do  
stop you from doing what you can do.**  
-John Wooden