

A Guide to the High School Mathematics WASL



The Mathematics WASL

Purpose: To measure the level of mathematics proficiency that Washington students have achieved based on the Essential Academic Learning Requirements.

What does it measure?

Content Strands

- Number Sense
- Measurement
- Geometric Sense
- Probability and Statistics
- Algebraic Sense

Process Strands

- Problem Solving and Logical Reasoning
- Communication of Understanding
- Making Connections
 - Within Mathematics
 - To the World

How is the WASL organized?

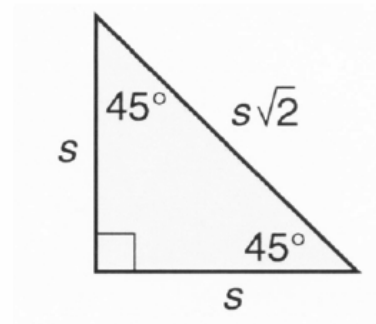
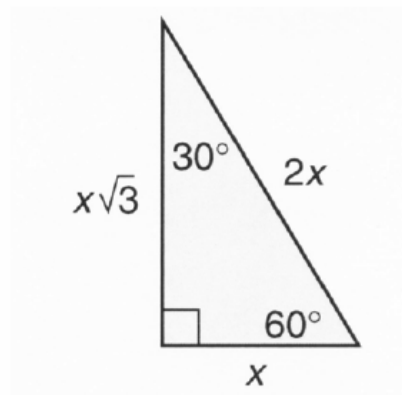
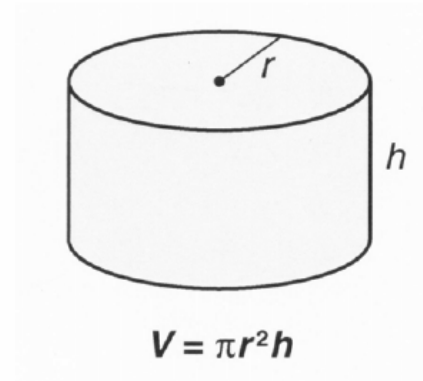
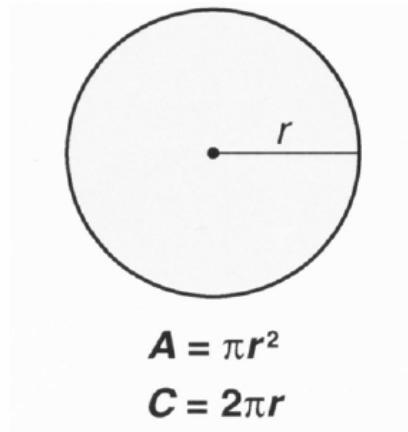
- The test is given in two sittings, each about 90 minutes long. However, students may work as long as they reasonably need to, up until the end of the school day. I recommend that students not turn their test in until they have double checked each answer.
- The test is given over two days
 - Day One: Tools (rulers, calculators, etc)
 - Day Two: No Tools

Three Types of Questions

- Multiple Choice
 - Short Answer
 - Extended Response
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- These three types of questions are spread out about the entire test and over both days.
 - Almost all questions are given to students in some kind of real-life context.

High School WASL Mathematics Formula Sheet— During both mathematics testing sessions students are permitted to use this formula sheet as a reference. This sheet may not be used as scratch paper. This sheet must be returned to the proctor following each testing session.

Below are formulas you may find useful as you work the problems.

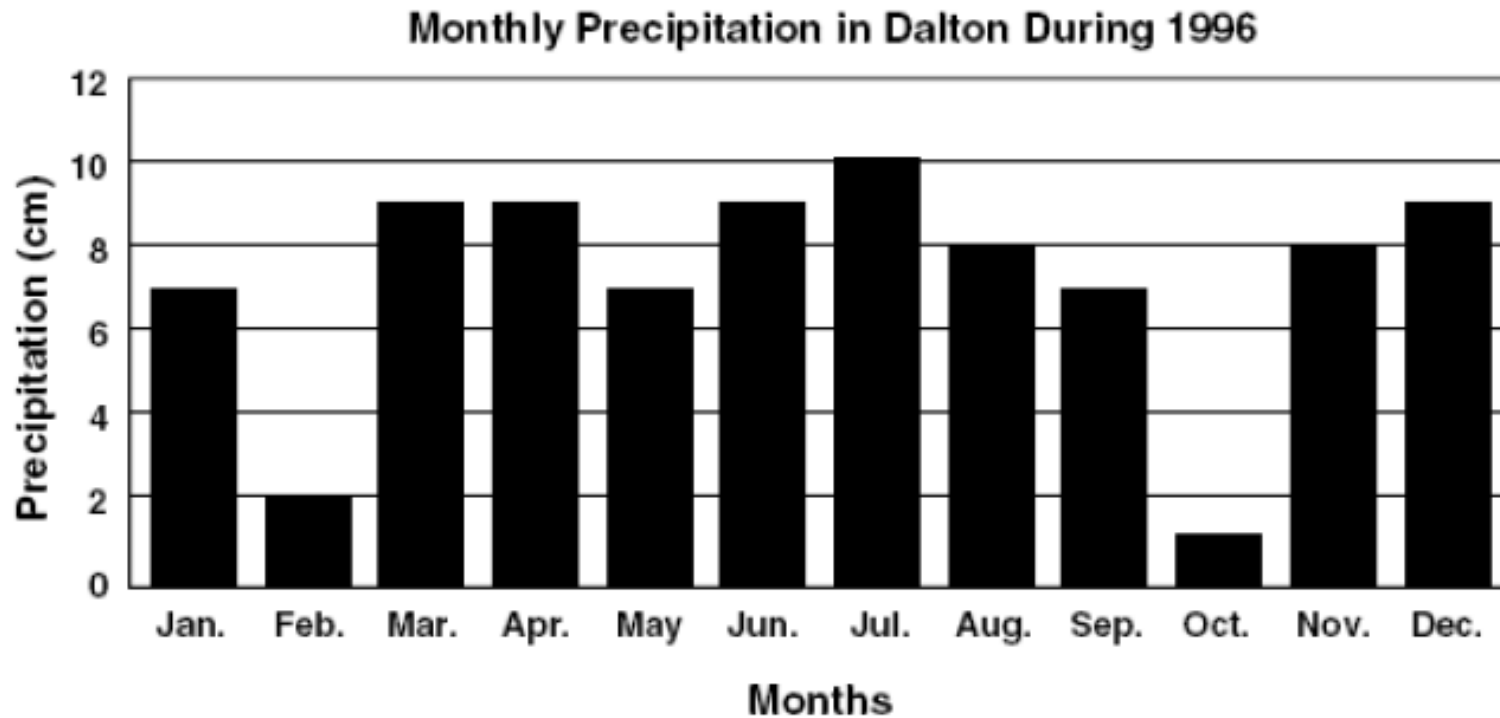


1 mile = 5,280 feet
1 mile = 1,760 yards

Multiple Choice:

- 27 over the two days
- Worth 1 point each
- Each question has 4 possible answers
- No trick answers. There will not be an answer choice of “none of the above.”
- Scored only for correct or not correct

- 32 The graph shows the approximate amount of precipitation that fell in Dalton each month during 1996.



What was the **median** amount of monthly precipitation in Dalton during 1996?

- A. 7 cm
- B. 8 cm
- C. 9 cm
- D. 10 cm

B

No Tools Day

Short Answer:

- 11 over the two days
- Worth 2 points each
- One page in length
- May ask a student to:
 - Write a sentence or equation
 - Complete a table, graph or chart
 - Construct a diagram
 - Carry out a calculation
 - Explain why they chose a given answer on a multiple choice item

5 days/week
20 gal/1 gal

morning drive = 10 miles
afternoon drive = 12 miles

$10 \cdot 5 = 50 \text{ mi.}$
 $12 \cdot 5 = 60 \text{ mi.}$
 110 miles/week

$\frac{110 \text{ mi}}{20 \text{ mi.}} = 5.5 \text{ gallons}$

5.5 gallons each week

Well, you multiply 10 by 5 and 12 by 5 so you know how many miles a week she drives to and from work. Then you add those two sums. When you get the total (110) then you divide by 20.

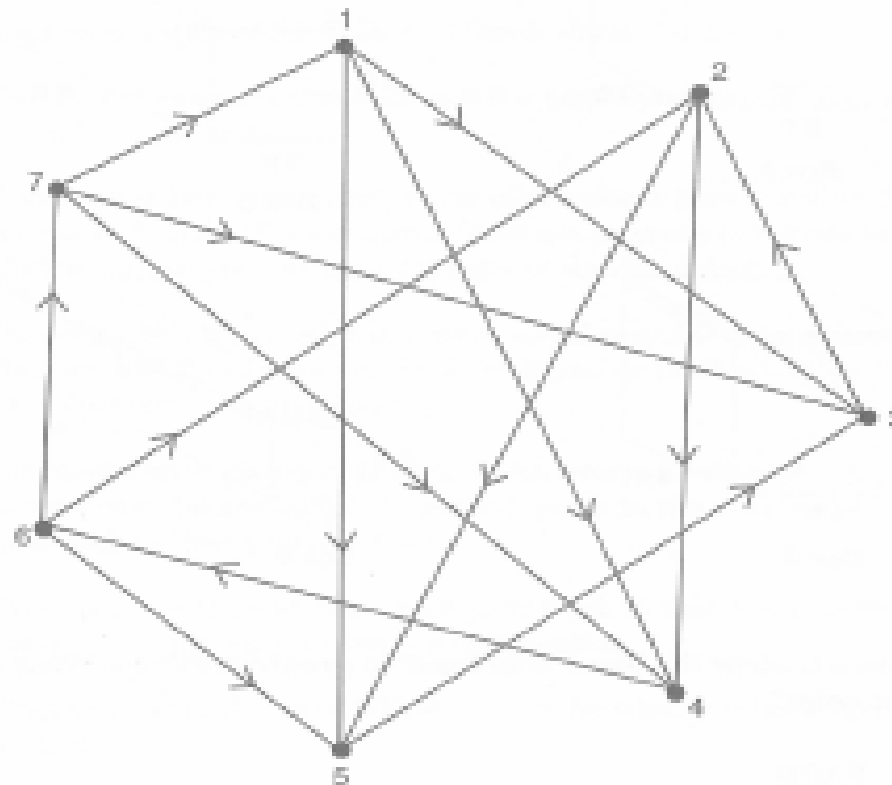
How many gallons of gasoline will Caprice use each week driving to and from work? 5.5 gallons.

Extended-Response:

- 4 over the two days (2 each day)
- Worth 4 points each
- 2 pages in length (side by side)
- Have bulleted lists of what students need to do
- May ask a student to:
 - Create a graph showing the appropriate data, labeled axes, and title
 - Create and/or extend tables, diagrams, or pictures
 - Provide a lengthy written explanation or a written explanation with equations, pictures and/or diagrams

The diagram shows some of the results of a seven-person contest. When the contest is over, each person will have played one match against every other person. (Not all matches have been played yet.)

An arrow pointing from one player to another means that the first player defeated the second player in their match. For example, player 1 defeated player 3 in their match.



Each player has 2 matches left to play.

Which player has the most difficult matches left to play?

- Organize your results in a way that helps you look for patterns and helps explain your answer. You may want to draw a diagram or make a table.
- Explain the reasons for your answer using information from the diagram.

Show your work to support your answer using words, numbers, and/or diagrams.

Player	1	2	3	4	5	6	7	Notes
1	X	W	W	W	W ³	?	L	Key
2	?	X	L	W	W ²	L	?	When lose
3	L	W	X	?	L ¹	?	L	Did play yet
4	L	L	?	X	?	W	L	
5	L	L ^{III}	W	?	X	L	?	
6	?	W	?	L	W	X	W	
7	W	?	W	W	?	L	X	

Through my chart, I have gained the knowledge of the records that each player, and in turn, who will have the toughest matches to play

Player	Record of Upcoming Opponents
1	(3-2) (2-1)
2	(3-1) (3-1)
3	(1-3) (3-1)
4	(1-3) (1-3)
5	(1-3) (2-1)
6	(3-1) (1-3)
7	(2-2) (2-1)

I conclude that player 2 has the most difficult opponents yet to face because they are both 3-1.

Player with the most difficult remaining matches 2

Showing Work

- Written problems (2 and 4 point problems) will ask students to: “Support your work using words, numbers, and/or diagrams.”
- This means points are awarded based on both the correct answer AND explaining how you got that answer.
- Students need to show all work and do all written explanations in the provided box for full credit.
- Students should make sure they show enough work to warrant all available points (2 or 4)

Percents

- 27 multiple choice problems make up about 42% of the test.
- 11 one-page problems make up about 34% of the test.
- 4 two-page problems make up about 24% of the test.

(Yes, that means each 4 point problem is worth about 6% of the test.)

Tools

- Any classroom manipulatives that students usually use in math instruction
- Calculators – any calculator that students normally use is okay, except
 - Hand held computers, organizers
 - Cell phones
 - Calculators that have keyboards or pen/stylus input devices

HINT: It is recommended for students to use the calculator he/she is used to using.

General WASL Struggles

- Following directions
- Completely understanding directions
- Properly decoding the prompt
- Sloppy answer construction
- Contradicting themselves
- Improper or Incomplete labeling

Hints for your Student

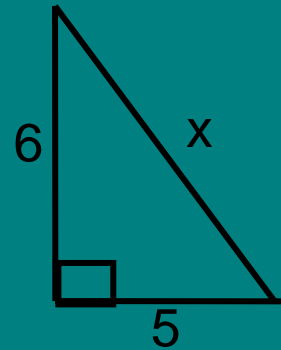
- ALWAYS answer every question! There is no penalty for guessing!
- If you don't know where to start, do something!
- On a Multiple Choice question, if you are not sure of the answer, see if you can eliminate some of the answers.
- Treat bulleted lists as check lists. The question is trying to communicate how it will be scored.
- When you are done, go back and check that you did what the question asked you to do.
- There are a lot of ways you can earn partial credit on problems.
- Read and reread the questions carefully. Make sure you answer all the questions in the problem.

Math Specific WASL Struggles

- Area, perimeter, volume, and surface area
- Using information from tables and graphs
- Fractions
- Transformations with rotations
- Mean, median and mode
- Using stem and leaf plots and box and whisker plots

Run-On Equations

- No run-on equations. All equations in student work must always be true.
- Example: Find the area of the triangle.



- Work should not look like this: $\frac{1}{2} \cdot 5 = 2.5 \cdot 6 = 15u^2$

- Work could look like this: $\frac{1}{2} \cdot 5 = 2.5$
 $2.5 \cdot 6 = 15u^2$

Thank you for coming!

Math WASL Practice Test:

[http://www.k12.wa.us/assessment/WASL/WASL
Practice-ParentStudent.aspx](http://www.k12.wa.us/assessment/WASL/WASLPractice-ParentStudent.aspx)