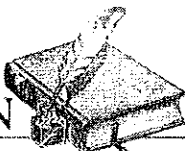# Entrance Exam Preparation - Eleventh Grade

Expected time for testing:     2 hours
(Higher-level math students may take longer)

| Subject | Assessment Content | Approx. Time |
|---|---|---|
| **Math** | Mastery of Math Facts test:<br><br>Addition, subtraction, multiplication & division (two minutes for each test)<br><br>Math Concepts test:<br><br>Four-digit addition and subtraction, decimals, long-division, fractions, rounding, algebra 1, algebra 2, geometry, square root, Pythagorean Theorem, | 10 minutes<br><br><br><br>20 – 30 minutes (depending on level being assessed) |
| **Reading & Comprehension** | Reading and comprehension (3 tests, 3 minutes per story):<br><br>Read 3 short stories and answer questions in multiple-choice format. | 10 minutes |
| **Spelling** | Spelling test | 10 minutes |
| **Grammar** | Grammar test:<br><br>Identifying parts of speech: verb, noun, pronoun, adverb, adjective, conjunction, preposition, appositives, plurals, articles; Dissecting sentences: identify subjects, verbs and modifiers; Showing understanding of capitalization, punctuation and use of synonyms, antonyms, homonyms and homophones. | No time limit (most students complete within 20 minutes) |
| **Writing** | Composition:<br><br>Student is required to write a paragraph or more in cursive on a topic of his/her choice. | 10 minutes |

# AMERICAN HERITAGE

## SCHOOL & FAMILY EDUCATION CENTER

### Intake Academic Assessment Summary

Student Name _____ Age_____ Grade Level (Current) _____ Date_____

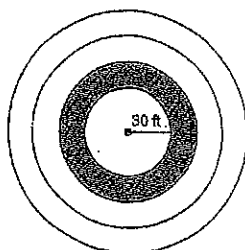Teacher Conducting Assessment _____ Administration Review_____

| Subject Assessed | Time Allocation | Score | Notes |
|---|---|---|---|
| Math Facts | | | |
| Addition | | | |
| Subtraction | | | |
| Multiplication | | | |
| Division | | | |
| Math Concepts | | | |
| Reading Comprehension | | | |
| Word Decoding | | | |
| Spelling | | | |
| Orthography | | | |
| Composition | | | |

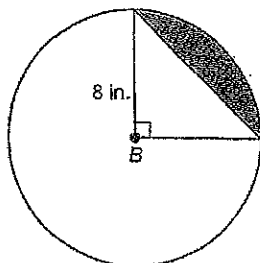Recommendations: _____

_____

_____

_____

Note to Parents: The results of this Intake Academic Assessment are based upon performance standards and expectations of American Heritage School students for the age or grade level indicated above. This assessment is intended to measure current performance only and is used as one of various considerations in the School's intake process to make admission and grade level placement decisions. Thank you for your interest in American Heritage School. Our mission is to serve you in developing the hearts, minds, and bodies of your children as we strive together to magnify the divine potential of students and families.
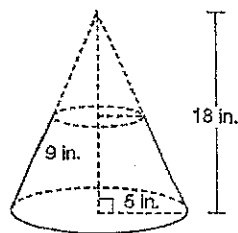
## Cumulative Test  **23B**

1. *(97)* A wilderness pilot is dropping food supplies from a small plane and trying to hit the target shown below. The central circle has a 30-foot radius and each annulus beyond that is 10 feet wide. What is the probability that she will hit the shaded portion of the target?



2. *(112)* Determine the area of the shaded segment of ⊙B in the diagram below. Round your answer to the nearest hundredth.
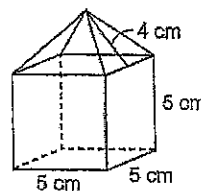


3. *(108)* Determine the coordinates of two points that are collinear with the points A (9, 6, 5) and B (7, 3, 2).

4. *(111)* The endpoints of $\overline{ST}$ are S (5, 3, −6) and T (−9, 7, −4). Find the midpoint.

5. *(103)* A traffic cone is partially filled with sand, as shown in the diagram below. If the height of the sand in the traffic cone is 9 inches, what volume of sand is in the traffic cone?



6. *(114)* Graph the region described by the inequalities $y < x − 4$ or $y > −x + 2$.
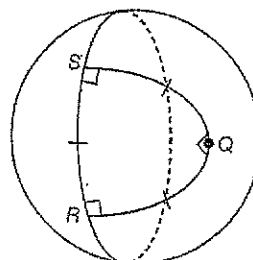
7. *(106)* A circle of radius 5 has been inscribed in a regular hexagon. Find the perimeter of the regular hexagon to the nearest hundredth.

8. *(115)* Find the surface area of the solid below. Round your answer to the nearest tenth of a square centimeter.



9. *(100)* The triangle QRS has vertices Q (5, 6), R (6, 3), and S (1, 1). ΔQRS is translated 1 unit to the right and 4 units down, resulting in ΔQ'R'S' with vertices Q' (6, 2), R' (7, −1), and S' (2, −3). Find the matrix that transforms ΔQRS to ΔQ'R'S'.
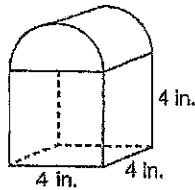
10. *(109)* Classify triangle QRS shown below according to its angle measures and side lengths.

Saxon Geometry

11. *(107)* Marcia is assembling a quilt that will contain 576 squares. Each square measures 3 inches by 3 inches. Marcia does not know the exact dimensions of the finished quilt, but she knows that it is rectangular. What is the minimum perimeter the finished quilt could have?

12. *(111)* Find the distance between points $C(4, 7, -2)$ and $D(0, -1, 5)$.

13. *(115)* Find the volume of the solid shown below to the nearest tenth. Assume that the prism and cylinder are right and that the top of the figure is exactly half of a cylinder.
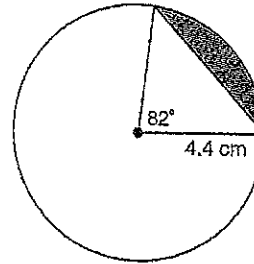


14. *(96)* A rectangle is six times as tall as it is long. If its height is reduced to one-third of its current height, what is the ratio of the new rectangle's perimeter to the original rectangle's perimeter?
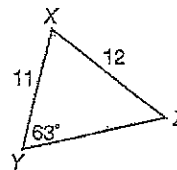
15. *(113)* Sketch a plane through the triangular pyramid below that will divide it into two congruent, reflected halves.



16. *(112)* A circle has a radius of 4.4 cm as shown below. Determine the area of a segment formed by a chord with a central angle of 82°.



17. *(94)* Find the measure of $\angle X$ in the diagram below. Round your answer to the nearest tenth of a degree.



18. *(110)* The shape of planet Mars, which approximates a sphere, has a radius of about 3400 kilometers. If a student builds a scale model of Mars with a scale of 400 km : 1 cm, what is the radius of the model?

19. *(114)* Graph the region described by the inequalities $y \le x + 4$ and $y > 3x - 4$.

20. *(113)* Determine whether the solid below has rotational symmetry over the axis shown. If so, give the order of symmetry and the angle of rotational symmetry.

**Saxon Geometry**

## Limited Warranty

The Nomistake Electric Typewriter is guaranteed for the period of six months from the date of original purchase to be free from defects in material and workmanship, with the following conditions: that the typewriter has been used as directed by its operating instructions; that no repairs have been made except by factory approved repair workers.

This warranty does not cover damage caused by carelessness or rough handling.

In the event that this typewriter is resold within six months of the original purchase, the warranty can be transferred to the new owner.

Upon notification, the Nomistake Corporation will replace, free of charge, any defective parts if all conditions of this warranty have been met. Should your typewriter require repairs, contact your local Nomistake Repair Center.

The Nomistake Corporation, Boston, MA.

---

1. **The Nomistake Electric Typewriter is guaranteed for** Ⓐ all time Ⓑ one year Ⓒ six months Ⓓ three months
2. **The Nomistake Electric Typewriter is guaranteed to be** Ⓐ easy to operate Ⓑ put together properly Ⓒ unbreakable Ⓓ fool proof
3. **For this guarantee to be good, the buyer must** Ⓐ pay extra money Ⓑ fill in a card Ⓒ follow the operating instructions Ⓓ be a good typist
4. **If something goes wrong with the typewriter, you are supposed to** Ⓐ write the company in Boston Ⓑ take it back to where you bought it Ⓒ resell it Ⓓ contact the local Nomistake Repair Center
5. **If something is wrong with the way this typewriter was made, the company will** Ⓐ replace the defective parts Ⓑ give you a new typewriter Ⓒ give you your money back Ⓓ loan you a new typewriter
6. **This guarantee will be no good if** Ⓐ you bought the typewriter second hand Ⓑ the typewriter was dropped on the floor Ⓒ the store where you bought the typewriter closed Ⓓ you lose the instructions
7. **If you try to repair the typewriter yourself, the company will** Ⓐ never repair it Ⓑ charge you to repair it Ⓒ give you new parts free Ⓓ tell you how to repair it correctly
8. **If all the conditions have been met, the corporation will** Ⓐ return your money Ⓑ change the parts that don't work Ⓒ notify you Ⓓ send the machine to Boston

| No. right | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| G score | 5.2 | 6.1 | 7.1 | 8.1 | 9.4 | 10.5 | 11.8 | 12.9+ |

1. **Improper and uncomfortable seating arrangements** in classrooms probably cause a large number of inattention and hyperactivity problems. The chair should be *ergonomically* correct to support the child's back and general posture. Schools should give as much attention to the physical needs of children in a classroom as large corporations do for their employees. This is for productivity, comfort and safety.
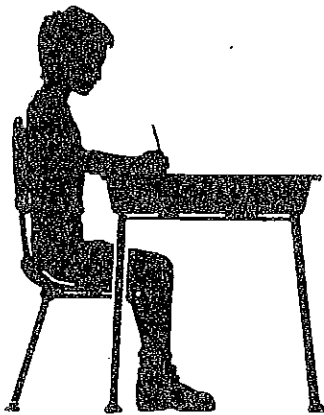
2. **Though sitting and lounging about on the floor, or in beanbag chairs, bathtubs, etc.,** has become quite popular in some classrooms, we do not think it affords the comfort or physical ease needed for accurate writing and spelling. The sketches below show correct seating for this method to work as prescribed.

B. **Prepare to teach letter strokes beginning in the next section.**

1. **Have students clear all materials from the desk top** except name tag, dotted-line paper and a No. 2, six-sided, black lead pencil.

2. **Desks are already adjusted for proper height for each student's feet to be flat on the floor,** spines straight against the back rest, head held high and arm position as shown in the pictures below for left and right-handed students.

   a. **A student's head should not be allowed to fall forward** because this causes strain on the back and neck muscles.

   b. **Both arms should rest comfortably on the desk;** elbows should be just off the edge.

   c. **The body should not touch the front edge of the desk.** This causes a tendency to lean on the desk, which places strain on the neck and shoulder muscles.



| Left-handed writing and sitting position | Right-handed writing and sitting position |

Directions: Trace and repeat the patterns below.

*llll* _____  *eeee* _____

*iiii* _____  *oooo* _____

*rrr* _____  *s s s* _____

*mmmm* _____

Directions: Copy the letters in the space provided.

*A* ___ *B* ___ *C* ___ *D* ___ *E* ___

*F* ___ *G* ___ *H* ___ *I* ___ *J* ___

*K* ___ *L* ___ *M* ___ *N* ___ *O* ___

*P* ___ *Q* ___ *R* ___ *S* ___ *T* ___

*U* ___ *V* ___ *W* ___ *X* ___

*Y* ___ *Z* ___

*a* ___ *b* ___ *c* ___ *d* ___ *e* ___

*f* ___ *g* ___ *h* ___ *i* ___ *j* ___

*k* ___ *l* ___ *m* ___ *n* ___ *o* ___

*p* ___ *q* ___ *r* ___ *s* ___ *t* ___

Directions: Trace and repeat the patterns below.

llll _____

eeee _____

iiii _____

mmmm _____

oooo _____

rrr _____

sssss _____

Directions: Copy the letters in the space provided.

a _____ b _____ c _____ d _____ e _____

f _____ g _____ h _____ i _____ j _____

k _____ l _____ m _____ n _____

o _____ p _____ q _____ r _____ s _____

t _____ u _____ v _____ w _____

x _____ y _____ z _____

# Practice Sheet

Aa                    Bb

Cc                    Dd

Ee                    Ff

Gg                    Hh

Ii                    Jj

Kk                    Ll

Mm                    Nn

Oo                    Pp

Qq                    Rr

Ss                    Tt

Uu                    Vv

Ww                    Xx

Yy                    Zz

*u* _____ *v* _____ *w* _____ *x* _____

*y* _____ *z* _____

Directions:  Copy the following quote on the lines provided.  The prophet Heber J. Grant was fond of this saying.

"That which we persist in doing becomes easier for us to do, not that the nature of the thing itself is changed, but our power to do is increased."
— Ralph Waldo Emerson