

AMERICAN HERITAGE
SCHOOL & FAMILY EDUCATION CENTER

Intake Academic Assessment Summary

Student Name _____ Age _____ Grade Level (Current) _____ Date _____

Teacher Conducting Assessment _____ Administration Review _____

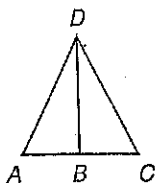
<i>Subject Assessed</i>	<i>Time Allocation</i>	<i>Score</i>	<i>Notes</i>
Math Facts			
Addition			
Subtraction			
Multiplication			
Division			
Math Concepts			
Reading Comprehension			
Word Decoding			
Spelling			
Orthography			
Composition			

Recommendations: _____

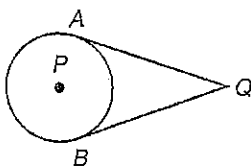
Note to Parents: The results of this Intake Academic Assessment are based upon performance standards and expectations of American Heritage School students for the age or grade level indicated above. This assessment is intended to measure current performance only and is used as one of various considerations 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.

- A man is 7 times as old as his son. In 9 years he will be 2 years older than 3 times his son's age then. How old are they now?
- The sum of the digits of a two-digit counting number is 10. When the digits are reversed, the new number is 13 less than one-half the original number. What is the number?
- Sasha rows her boat 5 miles per hour in still water. She travels 48 miles downstream in twice the time it takes to travel 6 miles upstream. What is the speed of the current?
- Construct a triangle whose sides are 4 cm, 5 cm, and 6 cm long.
- Use a ruler to draw a line segment 6 cm long. Construct a perpendicular to the line at a point 2 cm from the left endpoint.
- Draw a line segment and a point outside the line. Construct a perpendicular to the line that passes through the point.
- Use a protractor to draw a 48° angle. Then use a straightedge and compass to construct the bisector of the angle.

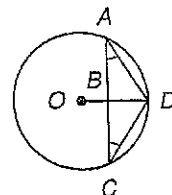
8. Given: $\overline{AD} \cong \overline{DC}$
 $\angle ADB \cong \angle CDB$
 Outline a proof that shows:
 $\overline{AB} \cong \overline{BC}$



9. Given: Circle P
 Tangents QA and QB
 Outline a proof that shows:
 $\overline{AQ} \cong \overline{QB}$



10. Given: Circle O
 $\angle BCD \cong \angle BAD$
 Outline a proof that shows:
 $\overline{OD} \perp \overline{CA}$



11. Given: $A = \{1, 3, 5, 7, 9\}$ and $B = \{1, 2, 3, 6, 10, 13\}$
 (a) Find $A \cup B$. (b) Find $A \cap B$.

Graph the solution on a number line:

12. $\{x \in \mathbb{R} \mid |x + 1| < 2\}$
13. $1 \leq \frac{-3}{x - 2}$; $D = \{\text{Reals}\}$
14. Denise deposited \$3140 at 7 percent interest compounded continuously. How much money did she have after 6 years? ($A_t = Pe^{rt}$)
15. How many 4-letter signs can be made from the letters in the word TOPOLOGY if no repetition is permitted?
16. Show that $1.\overline{023}$ is a rational number by writing it as a fraction of integers.
17. Solve for x : $4 \log_5 x = \log_5 81$
18. Complete the square as an aid in graphing:
 $y = x^2 + 6x + 8$
19. Solve for x : $\log_3(x + 5) - \log_3(x - 3) = \log_3 9$
20. Use M and N to represent positive numbers and write:
 (a) the product rule for logarithms.
 (b) the quotient rule for logarithms.
 (c) the power rule for logarithms.

1. The lab assistant calibrated t thermometers in h hours, but still got off work 3 hours late. What should her rate of calibration have been to get off work on time if she had to calibrate $t + 2$ thermometers?

2. Graph the piecewise function:
$$\begin{cases} y = 3 & \text{if } -\infty < x \leq 1 \\ y = x & \text{if } 1 < x \leq 3 \\ y = -x + 1 & \text{if } 3 < x < \infty \end{cases}$$

3. Graph the hyperbola: $xy = 9$

4. Sketch the graph of $f(x) = [x] - 1$.

5. Find the roots of the polynomial equation $x^3 - 2x^2 + 2x - 15 = 0$.

6. Find the radius of a circle that circumscribes a regular hexagon whose perimeter is 30 inches.

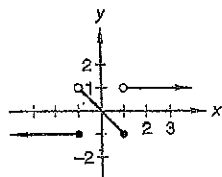
7. Use Descartes's rule of signs to determine the possible number of:

(a) Positive real roots of $6x^3 - 2x^2 - 3x + 7 = 0$

(b) Negative real roots of $6x^3 - 2x^2 - 3x + 7 = 0$

8. Write the equations for the function shown.

9. Sketch the graph of the following function showing clearly all x -intercepts, holes, and asymptotes.

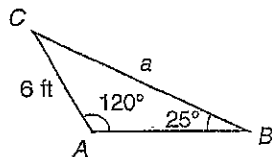


$$y = \frac{x^2 + 4x}{(x + 2)(x - 1)(x + 4)}$$

10. Jif has a bucket containing 5 red balls and 7 green balls. Two balls are drawn at random. What is the probability that both are green?

11. Solve this triangle for

- (a) angle C
- (b) side a
- (c) area



12. Listed below are the equations of conic sections, none of which are degenerate. Indicate whether each equation represents a circle, a parabola, an ellipse, or a hyperbola.

- (a) $x^2 - 4y^2 = 4$
- (b) $2x^2 - 4x + y^2 = 0$
- (c) $x^2 + y^2 - 6x + 4y + 9 = 0$
- (d) $xy = 8$
- (e) $x^2 + 4x - 4y - 2 = 0$

13. Write equation (c) of problem 12 in standard form and graph the conic section that the equation represents.

14. Find the coordinates of the point that lies two thirds of the way between $(1, 3)$ and $(7, 6)$.

15. Determine the radius of the "region of interest" of the polynomial function $y = 3x^3 - 9x$. Determine the coordinates of some points on the graph and sketch the graph.

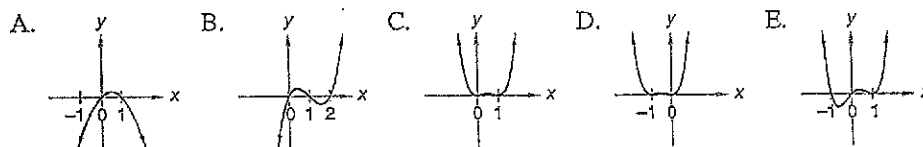
16. Solve for x : $\log_{1/2}(x - 3) > 3$

17. Solve $\sin 2x - \sin x = 0$ given that $0 \leq x < 2\pi$.

18. Show: $\sin 3x = 3 \sin x - 4 \sin^3 x$ [Hint: $\sin 3x = \sin(2x + x)$]

19. One root of $x^4 + 3x^2 - 4 = 0$ is $2i$. What are the other three roots?

20. Which of the following graphs most resembles the graph of $f(x) = x^2(x + 1)^2$?



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.

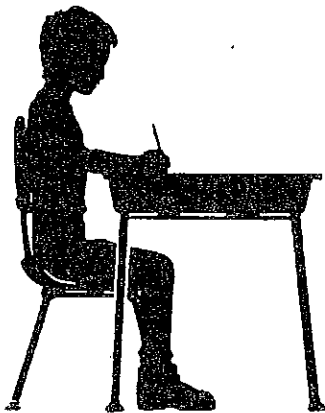


2. **Though sitting and lounging about on the floor, or in beanbag chairs, bathtubs, etc.,** has become quite popular in some classrooms, we do not think it affords the comfort or physical ease needed for accurate writing and spelling. The sketches below show correct seating for this method to work as 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



Name: _____

Date: _____

Orthography

Directions: Trace and repeat the patterns below.

llll _____ eeee _____

^{2'}^{2'}^{2'}^{2'} mmm _____ oooo _____

rrr _____ sss _____

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 _____

Orthography Practice

Directions: Trace and repeat the patterns below.

llll _____

eeee _____

^{2.}^{2.}^{2.}^{2.} mmm _____

mmmm _____

oooo _____

rrr _____

ssss _____

Directions: Copy the letters in the space provided.

a _____ b _____ c _____ d _____ e _____

f _____ g _____ h _____ ^{2.}i _____ ^{2.}j _____

k _____ l _____ m _____ n _____

o _____ p _____ q _____ r _____ s _____

^{2.}t _____ u _____ v _____ w _____

^{2.}x _____ y _____ z _____

Practice Sheet

A a

B b

C c

D d

E e

F f

G g

H h

I i

J j

K k

L l

M m

N n

O o

P p

Q q

R r

S s

T t

U u

V v

W w

X x

Y y

Z z

w _____ w _____ w _____ w² _____

ny _____ zy _____

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