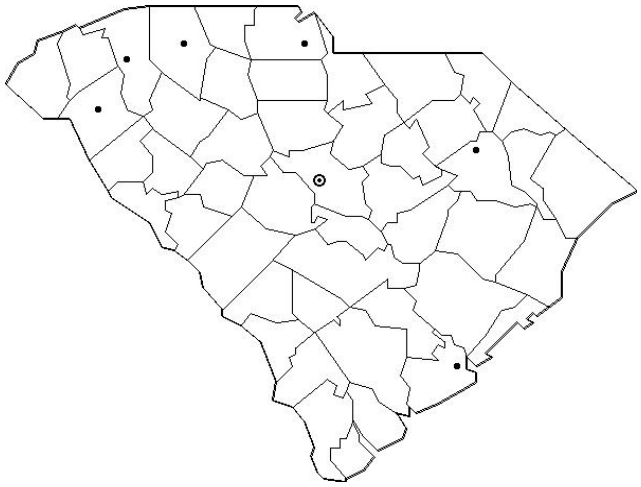
TESTS FOR HIGHER STANDARDS

MATHEMATICS



GRADE LEVEL TEST

Early Algebra

Part I – Multiple Choice

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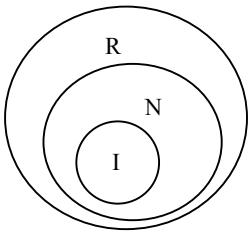
FOR THE SOUTH CAROLINA ACADEMIC STANDARDS

For the next question, use the following information: R represents real numbers, I represent irrational numbers, W represents whole numbers, and N represents natural numbers.

EA 2.1

5. Which relationship is pictured correctly?

A



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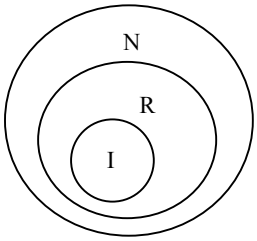

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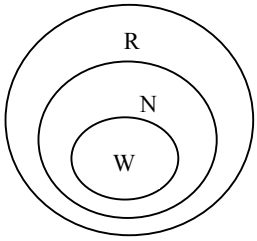

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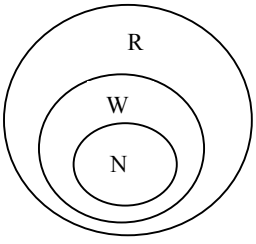


EA 2.2

6. The length of a cube is $3s$. The volume of the cube is $27s^3$. Which of the following laws of exponents is used to find the volume?

A $a^m \bullet a^n = a^{m+n}$

B $\frac{a^m}{a^n} = a^{m-n}$

C $m^a \bullet n^a = a^{m+n}$

D $(m \bullet n)^a = m^a \bullet n^a$

EA 2.2

7. The area of a rectangle is measured as $6x^6y^2z^4$. If the width is given by xy^2, what is the length?

A $x^2 y^2 z^2$

B $6x^5 z^4$

C $2xy^2$

D $6x^2 y^2 z^4$

EA 2.3

8. If the Earth travels about 9.0×10^8 km per year, how far does it travel in 3.0×10^4 years?

A 3.0×10^4 km

B 1.2×10^8 km

C 2.7×10^{13} km

D 2.7×10^{32} km

EA 5.6, EA 5.7

45. Which one of these linear functions indicates the greatest rate of change?

A $F = \frac{9}{5}C + 32$

B $C = \frac{9}{5}(F - 32)$

C $C = \pi d$

D $C = 2\pi r$

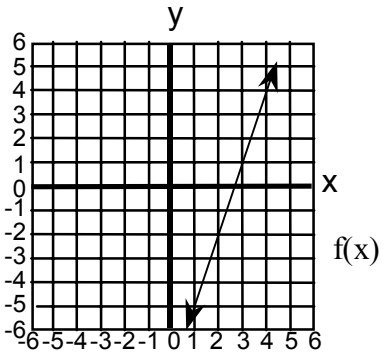
EA 5.6, EA 5.7

46. The equation of a line is given by $3y + 2x = 5$. Which of these describes the graph of the line?

A The line will rise to the right.
B The line will fall to the right.
C The line will be horizontal.
D The line will be vertical.

EA 5.6, EA 5.7

47. In the graph below, what is the slope of the line, f(x)?



A 2
B –2
C 3
D –3

EA 5.9

48. The table below shows the total labor charges for an electrician. The electrician charges $40 for the service call, plus an hourly flat rate for the time spent on the job.

Hours	1	1.5	2	2.5	3
Total Charge	$58	$67	$76	$85	$94

If x represents the number of hours spent on a job, what function gives the service charge in dollars?

A $f(x) = x + 91$
B $f(x) = x + 40 + 18$
C $f(x) = 40x + 18$
D $f(x) = 40 + 18x$

EA 5.9

49. Which of the following sets of ordered pairs, when graphed, would <u>fail</u> the vertical line test for functions?

A {(2, –3), (0, –1), (2, 1), (4, 3)}
B {(–3, 2), (–1, 0), (1, 2), (3, 4)}
C {(–15, 0), (–7, 4), (1, 8), (9, 12)}
D {(0, –15), (4, –7), (8, 1), (12, 9)}

