TNReady
Sample Items
Math (Grades 9-12)

Multiple Choice

HS Training Test #1

An expression is shown.

$$a^{\frac{4}{3}} \cdot a^{\frac{2}{3}}$$

What is the product of the two factors?

Ⓐ $a^{\frac{2}{3}}$

Ⓑ $a^{\frac{8}{9}}$

Ⓒ a^{2}

Ⓓ $a^{\frac{8}{3}}$

HS Training test #15

A contingency table for a class is shown.

Class Data

	Juniors	Seniors	Total
Females	6	10	16
Males	9	7	16
Total	15	17	32

What is the probability that a student selected at random is a female given that the student is not a senior?

Ⓐ 30%

Ⓑ 40%

Ⓒ 50%

Ⓓ 60%

Equation Response

HS Training test # 4

Mrs. Jones surveys her class about their siblings. In the class, 75% of the students have a brother, 82% have a sister, and 65% have both a brother and a sister.

What is the probability that a student has a brother or a sister?

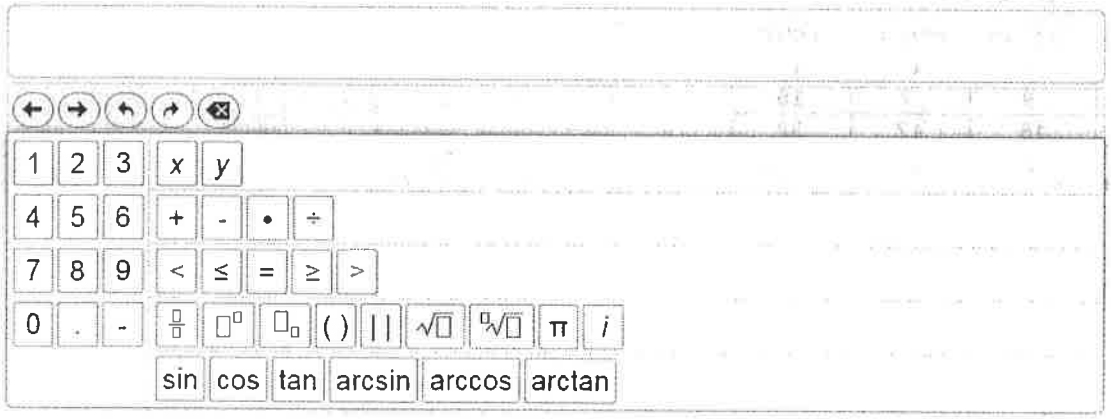
HS Training Test #7

The equation of a circle is shown.

$(x - 3)^2 + (y - 2)^2 = 4$

The circle is translated 2 units to the right and 4 units up and then is dilated by a factor of 3.

What is the equation of the new circle?

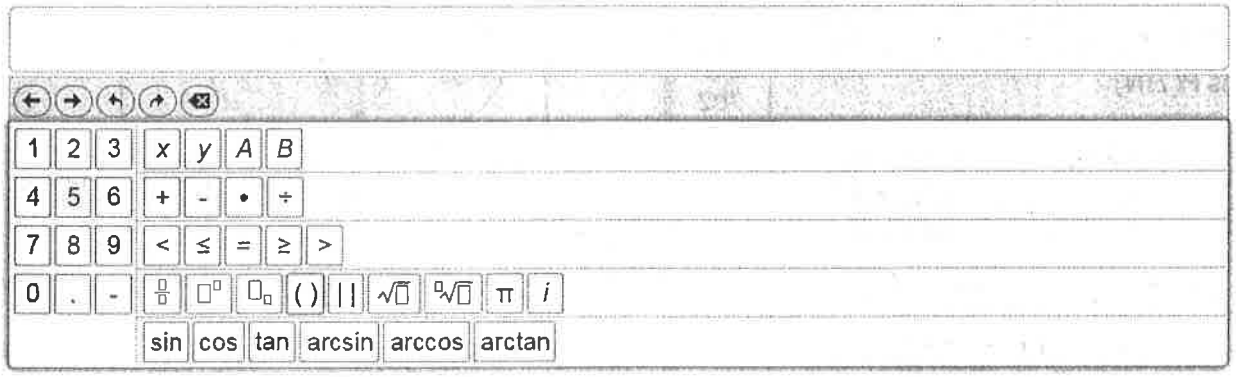


HS Training test # 14

Vanessa and Vinny use two different containers to carry water to a pool.

- Vanessa makes A trips to the pool, and Vinny makes B trips to the pool.
- Vanessa's container holds x gallons of water, and Vinny's container holds y gallons.

Create an expression that represents the average number of gallons of water carried every trip.



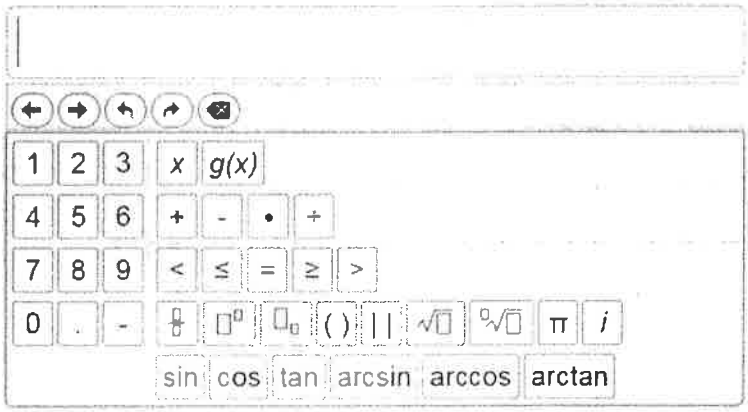
HS Training test # 23

The function $f(x)$ is shown.

$f(x) = 2x^3 - x^2 + \frac{1}{2}x$

Let $g(x) = f(\frac{2}{3}x)$.

What is $g(x)$ in terms of x?



Drag and Drop

HS Training test #3

Scientists are testing whether a person has a certain gene.

A *false positive* is a result where the person tests positive, T, but does not have the gene, N. The probability of a false positive rate is $P(T|N)$.

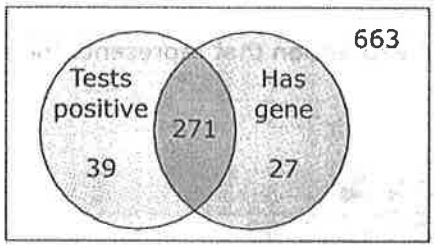
The Venn diagram shows the number of people in a trial who tested positive and the number of people who have the gene.

Drag a number to each box to complete the two-way table.

Then drag a number to each box of the fraction to show the probability of a false positive.

27
39
271
298
310
663
690
702

Delete



	Tests Positive	Tests Negative
Has gene		
Does not have gene		

Probability of false positive = $\frac{\square}{\square}$

Graphic Response

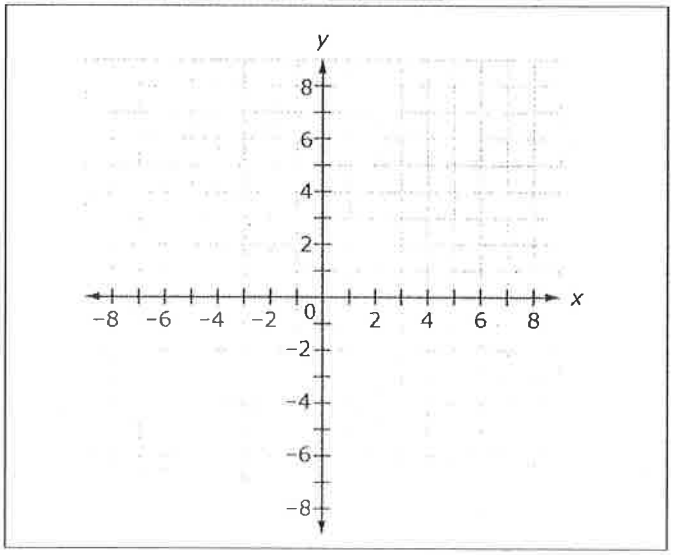
HS Training test # 6

A linear function is represented in the table shown.

x	y
−1	−6
1	−2
3	2

Use the Add Arrow tool to draw a line on the coordinate grid that has a greater y-intercept than the function represented by the table and is perpendicular to the function $y + \frac{1}{4}x = 2$.

Delete Add Point Add Arrow

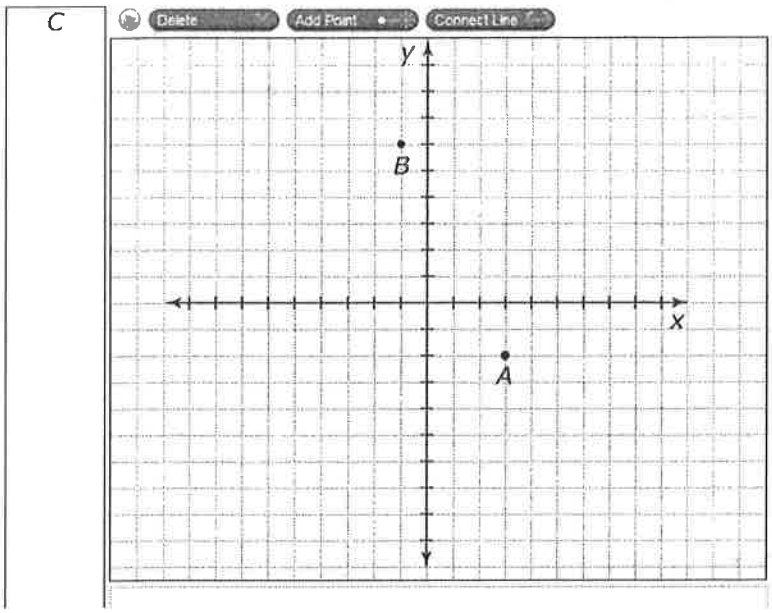


HS Training test # 17

Use the Add Point tool to plot a point that can be used to form a right triangle with points *A* and *B* so that $\angle ABC$ is the right angle.

Drag *C* over to this point to label it.

Use the Connect Line tool to draw triangle *ABC*.



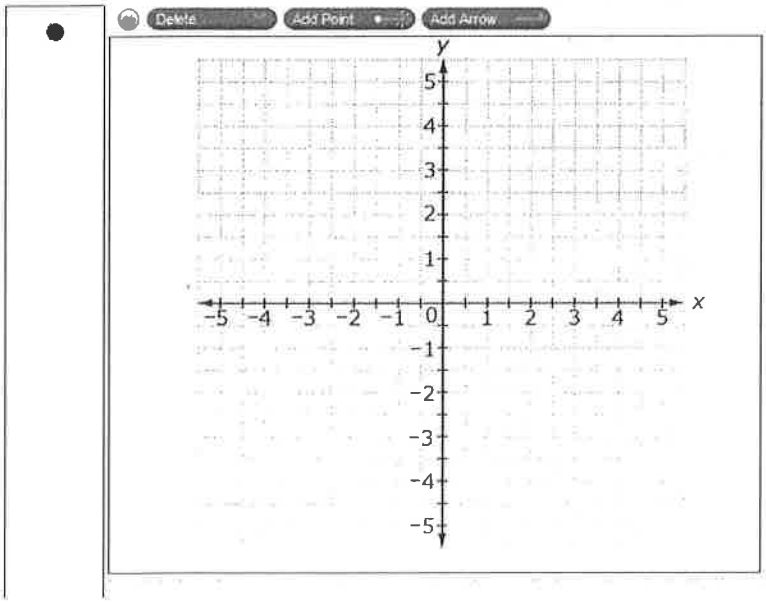
HS Training test # 22

An inequality is shown.

$y \geq |x - 2|$

Use the Add Arrow tool to draw the boundaries of the inequality.

Drag a circle to the coordinate grid to indicate the solution region for the inequality.



HS Multiple Select

Training Test #20

A line contains the points (0, 0) and (1, 4).

Select all the equations that represent this line.

- ☐ $y = x + 4$
- ☐ $y = 4x$
- ☐ $(y - 0) = 4(x - 0)$
- ☐ $x = 4y$
- ☐ $x = 0.25y$
- ☐ $y = 4x^2$

HS Training test # 24

Select all the numbers that could be the sum of a rational number and an irrational number.

- ☐ 4.076923076923...
- ☐ 5.236067977567...
- ☐ 3.116666666666...
- ☐ 9.605555127513...
- ☐ 6.714285714285...
- ☐ 2.718281828582...

27

An equation is shown.

$a \times b = c$

Let c be an irrational number.

What can be said about a and b?

Type your answer in the space provided.