NYS Next Generation
Learning Standards
Grade 8
Comprehensive Evaluation

Math topics assessed in this evaluation include:

NS:	Number System
EE:	Expressions & Equations
F:	Functions
G:	Geometry
SP:	Statistics & Probability

Created by A.C.K. Academy.

1. NY-8.NS.1

Write the fraction $\frac{5}{9}$ as a decimal.
Is it a rational or irrational number?

2. NY-8.NS.2

Without using a calculator, estimate
the value of $\sqrt{30}$ to the nearest tenth.

3. NY-8.EE.1

Simplify the expression $x^5 \times x^{-2}$
using the properties of integer exponents.

4. NY-8.EE.2

Solve the equation $x^3 = 64$ for x.

5. NY-8.EE.3

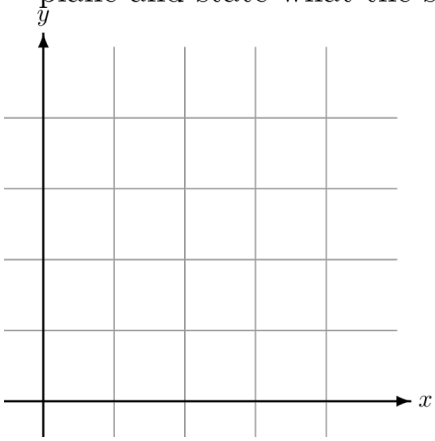
Estimate the population of the US
(about 330,000,000) using a single
digit multiplied by a power of 10.

6. NY-8.EE.4

Multiply (2×10^3) by (4×10^4)
and express the final result in scientific notation.

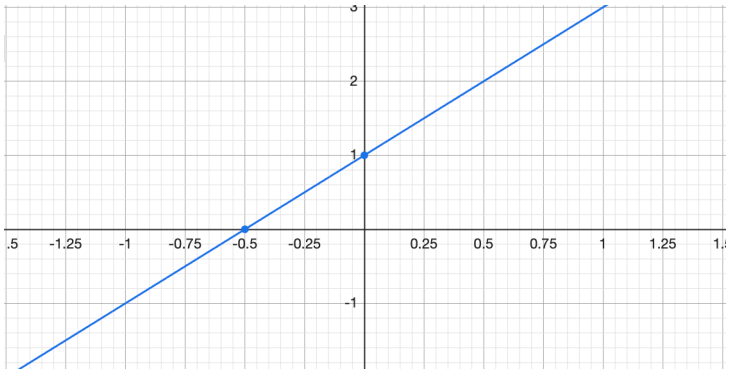
7. NY-8.EE.5

A car travels at a constant speed of 60 mph. Graph this relationship on a coordinate plane and state what the slope represents.



8. NY-8.EE.6

Using the graph of the line $y = 2x + 1$, draw two different right triangles to show that the slope is the same between any two points.



9. NY-8.EE.7

Solve the linear equation for x:
$3(x - 2) + 4 = 2x + 5$.

10. NY-8.EE.8

Solve the following system of linear equations:
$y = 2x$ and $y = x + 3$.

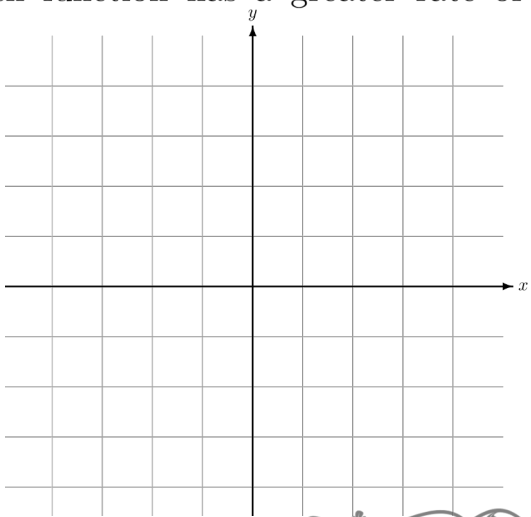
11. NY-8.F.1

Look at the given table of x and y values. Does this table represent a function?

x	y
1	3
2	5
3	7
2	9

12. NY-8.F.2

Function A is given by $y = 3x - 1$.
Function B is a line passing through (0, 2) and (1, 4). Which function has a greater rate of change?



13. NY-8.F.3

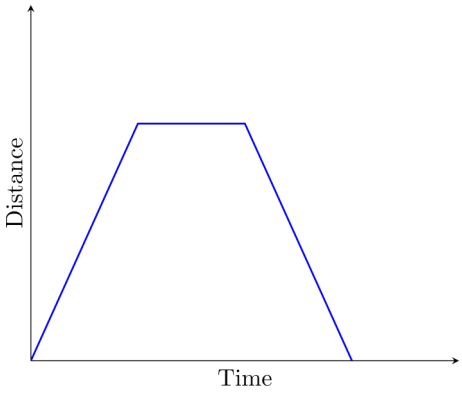
Is the function $y = x^2 + 4$ linear or non-linear?

14. NY-8.F.4

A gym charges a $20 sign-up fee plus $15 per month. Write a linear function to model the total cost, and identify the initial value and rate of change.

15. NY-8.F.5

Look at the graph showing a person's distance from home over time.
Describe what is happening during the flat, horizontal section of the graph.



16. NY-8.G.1

If you reflect a triangle across the x-axis, do the side lengths and angle measures stay the same?

17. NY-8.G.2

Triangle ABC is translated 3 units right to form Triangle A'B'C'.
Are the two triangles congruent?

18. NY-8.G.3

A point is located at (2, -4).
What are the new coordinates if it is reflected across the y-axis?

19. NY-8.G.4

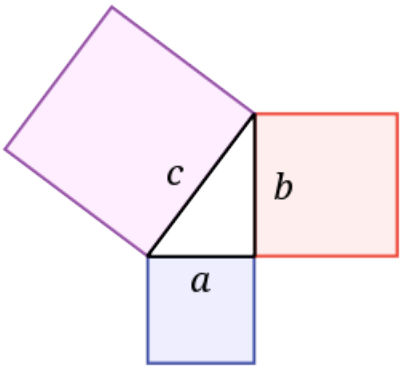
Rectangle A has side lengths of 2 and 4.
Rectangle B has side lengths of 6 and 12.
Are these rectangles similar?

20. NY-8.G.5

Two parallel lines are cut by a transversal.
If one interior angle is 40 degrees, what is the measure of the alternate interior angle?

21. NY-8.G.6

Explain how the areas of squares drawn on the three sides of a right triangle prove the Pythagorean Theorem.

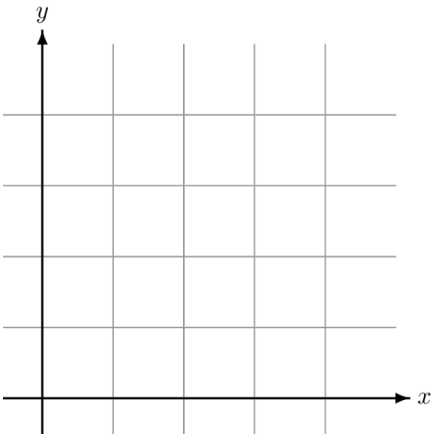


22. NY-8.G.7

A right triangle has legs of 6 cm and 8 cm.
Use the Pythagorean Theorem to find the length of the hypotenuse.

23. NY-8.G.8

Find the distance between the points (0, 0) and (3, 4) on a coordinate plane using the Pythagorean Theorem.

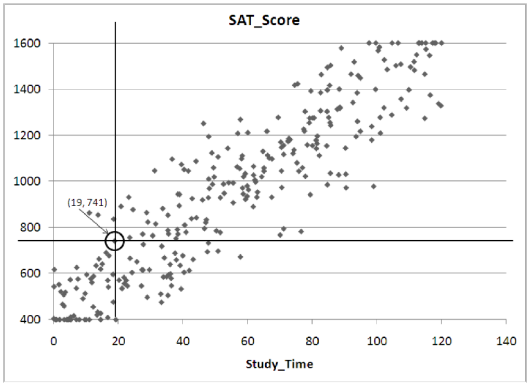


24. NY-8.G.9

A cylinder has a radius of 3 inches and a height of 5 inches.
What is the volume of the cylinder in terms of π?

25. NY-8.SP.1

Look at the scatter plot showing Study Time versus SAT Score. Does it show a positive, negative, or no association?



21. NY-8.SP.3

The equation $y = 5x+50$ models a student's test score (y) based on hours studied (x). What does the slope (5) mean in this real-world situation?

20. NY-8.SP.2

Draw a line of best fit through the center of the data points on the provided scatter plot.