

Grade 8 end-of-year math test

NAME	DATE	SCORE / 12
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Answer each question. Show your work.

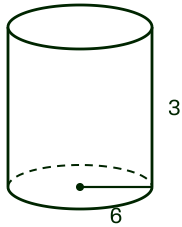
1	$(-2)^2 = ?$	
2	Write 0.0000044 in scientific notation.	
3	Write $7^3 \times 7^4$ as a single power.	
4	A right triangle has legs of 8 and 15 units. What is the length, in units, of the hypotenuse?	
5	A hose fills a pool at 90 gallons per hour. 1 gallon is 16 cups and 1 hour is 60 minutes. What is that rate, in cups per minute?	
6	The sequence 15, 21, 27, 33 continues in the same way. Write a rule for the n th term, using n .	
7	Write the equation of the line through (2, -4) and (4, -5). Give your answer in the form $y = mx + b$.	
8	A jar holds 17 coins, all quarters and dimes. The coins are worth \$3.50 in all. How many quarters are in the jar?	
9	How many solutions does the equation $5(x + 5) = 6x + 25$ have? ☐ One solution: the x terms do not cancel ☐ Infinitely many: the two sides are the same expression ☐ No solution: solving gives $x = 0$ ☐ No solution: the x terms cancel and leave a false statement	
10	A line of fit for quiz score y against hours of study x is $y = 4x + 62$. The data covers students who studied 0 to 6 hours. What quiz score does the line predict for a student who studies 1 hours?	
11	In a game, a player rolls a fair number cube. Rolling a 5 or a 6 scores 8 points, and any other roll scores 2 points. Over many rolls, about how many points does a player score per roll, on average?	
12	Is the function $y = 4x + 2$ linear or nonlinear? ☐ Nonlinear: the rate of change is not constant ☐ Nonlinear: its graph does not pass through (0, 0) ☐ Linear: the rate of change is constant	

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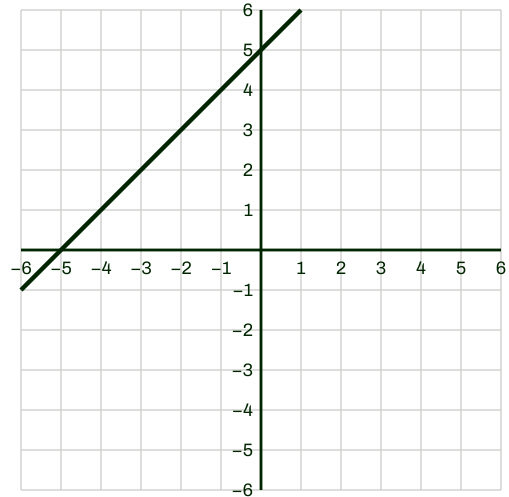
NAME	DATE	SCORE / 2
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Answer each question. Show your work.

- 13** The cylinder below is measured in centimetres. Use 3.14 for π . What is the total surface area, in square centimetres, of the cylinder?



- 14** What is the y-intercept of this line?



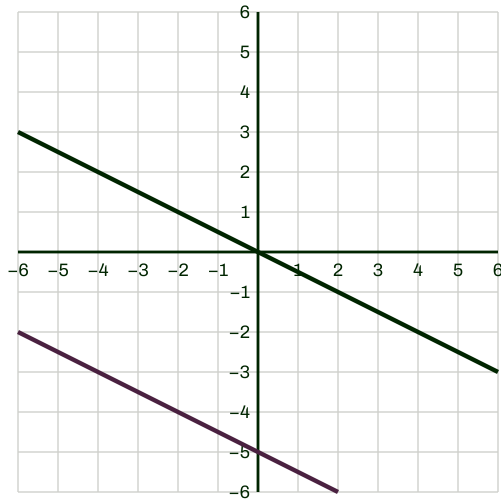
- ☐ 1 ☐ 5 ☐ -5

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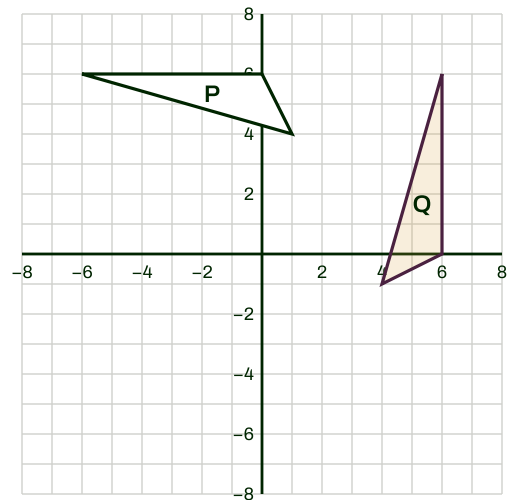
Answer each question. Show your work.

- 15** The two lines are the graphs of a system. How many solutions does the system have?



- ☐ No solution ☐ Infinitely many solutions
☐ One solution

- 16** Triangle P was rotated 90° clockwise about the origin to make triangle Q, as shown on the coordinate plane below. Which statement about triangles P and Q is true?



- ☐ Angle sizes stay the same; side lengths and position change
☐ Side lengths, angle sizes and position all stay the same
☐ Side lengths and angle sizes stay the same; position changes
☐ Side lengths stay the same; angle sizes and position change

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1	4	2	4.4×10^{-6}	3	7^7
4	17	5	24	6	$6n + 9$
7	$y = -\frac{1}{2}x - 3$	8	12	9	One solution: the x terms do not cancel
10	66	11	4	12	Linear: the rate of change is constant
13	339.12	14	5	15	No solution
16	Side lengths and angle sizes stay the same; position changes				