

Math Challenge

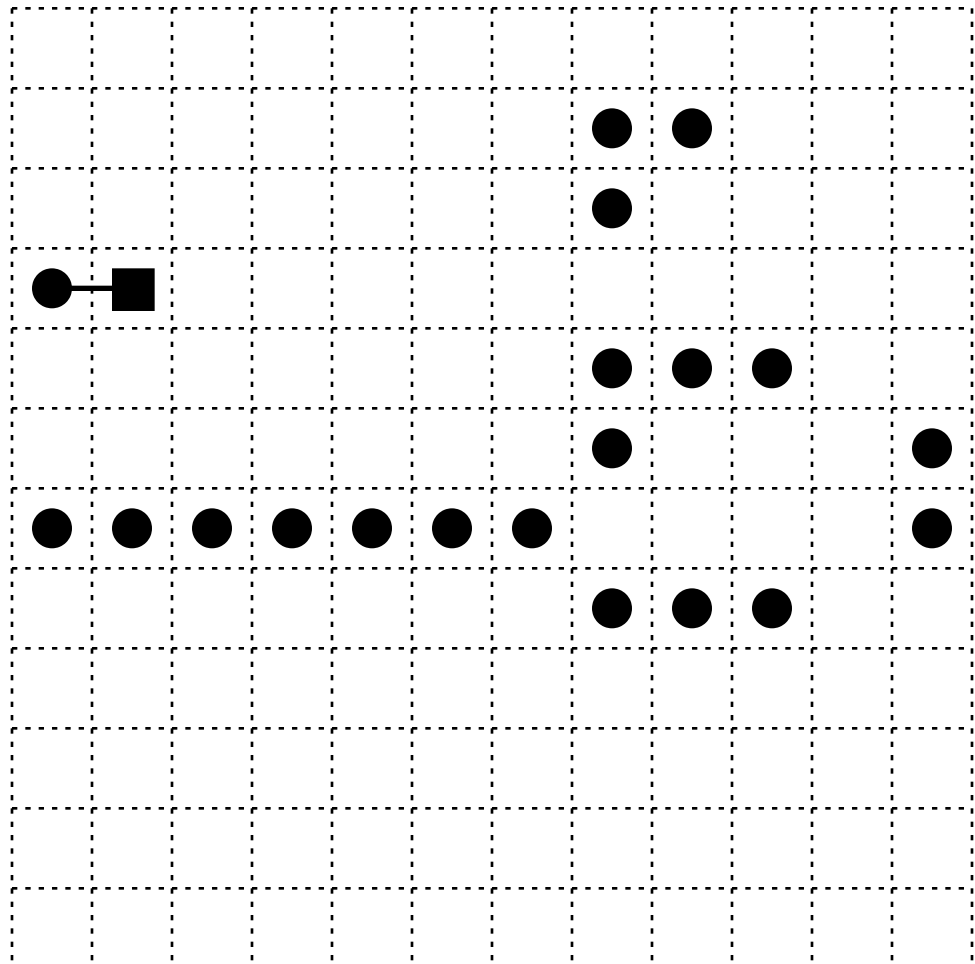


My Name: _____

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Start on the square. Draw exactly 11 lines without picking up your pencil to connect all the circles.



Name: _____

The perimeter of a rectangle is 50 feet and its area is 150 square feet. What are the dimensions of the rectangle?

A rectangle has a larger length than width. The area of the rectangle is five thousand, two hundred forty-six square feet. The perimeter of the rectangle is seventy-two feet more than six times its width. What are its dimensions?

A charity collected \$2,639 in equal donations from their members to share the cost of a new building. If there were one hundred twelve more members, then each member could contribute \$16 less. How many members does this charity have?

The diagonal of a rectangle is twenty-five inches more than its width. The length of the rectangle is seventeen inches more than its width. What are the dimensions of the rectangle?

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edHelper

Name: _____

Get a fidget spinner! Spin it.

I needed to spin _____ time(s) to finish.

Round the decimal 0.475 to the nearest hundredth.

The radius of a circle is 239 cm. What is the diameter of this circle?

What 5 coins add up to 65 cents?

$$1 + 9 + 12$$

What is the area of a rectangle with sides 3 cm and 12 cm?

$$5 \div \frac{1}{6}$$

H, _____, I, K, J, L, K,
M, L, N, M, O, N, P

$$9 \times 9 \times 9 = x^3$$

What is the value of x?

What is the greatest common factor of the numbers 108 and 48?

$$0.9 \cdot 5 =$$

$$7 \times (117 \div 9) - 25 \div 5 =$$

$$443 \div 10$$

Name: _____

Eric can paint a room in twelve hours. Katherine can paint the same room in ten hours. How long does it take for both Eric and Katherine to paint the room if they are working together?

Jordan works three times as fast as Emma. Emma can finish a job in 6 hours. If Jordan and Emma are working together, how long will it take them to finish the job?

Nathan can do the yard work in two hours. If Amber helps him, they can do the yard work in $1\frac{3}{5}$ hours. How long would it take Amber if she did all of the yard work?

Cody's copy store received an order for 9,828 copies. The store has 3 printers. If Cody only uses one printer at a time, the first printer would complete the job in 12 hours and 36 minutes, the second in 23 hours and 24 minutes, and the third in 13 hours and 39 minutes. How long would it take to process the order if only the first two printers were used?

Name: _____

Fill in the missing numbers. How? The sum of the four surrounding numbers is in the center of each square.

Exactly one of the four numbers has to be one of these numbers: $3\frac{4}{5}$, $\frac{1}{2}$, or $8\frac{7}{8}$.

The other three numbers have to all be DIFFERENT and must be from these: $6\frac{2}{5}$, $5\frac{1}{5}$, $9\frac{3}{5}$, or $2\frac{4}{5}$.

	$9\frac{3}{5}$						
$6\frac{2}{5}$	$30\frac{3}{40}$	$5\frac{1}{5}$	25	$6\frac{2}{5}$	$30\frac{3}{40}$		$19\frac{3}{10}$
	$8\frac{7}{8}$						
$9\frac{3}{5}$	$26\frac{19}{40}$		$22\frac{3}{5}$		$30\frac{3}{40}$		$26\frac{19}{40}$
			$18\frac{1}{10}$		$30\frac{3}{40}$		$30\frac{3}{40}$
	$18\frac{1}{5}$		$18\frac{1}{10}$		$30\frac{3}{40}$		$27\frac{27}{40}$
	$22\frac{3}{5}$		25				

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I did page 5

☐I decided to skip this page
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Rebecca has 3 liters of a mixture containing 44% of boric acid. How much water must be added to make the mixture 22% boric acid?

How much water should be added to three liters of 49% alcohol to make a mixture of 21% alcohol?

Sarah wants to make a 20 pound candy mix. She wants to include some expensive chocolates that cost \$5.20 a pound with candies that cost only \$1 a pound. If she wants a mix that costs \$1.21 a pound, how many pounds of each should she use?

William has 1 pound of brand 135 nuts that sell for \$3.21 a pound. He also has brand 468 nuts that sell for \$1.50 a pound. If he wants a mixture of nuts that sell for \$1.69 a pound, how many pounds of brand 468 should he add?

Name: _____

Jason has a total of thirty-four pennies and dimes. The total value of the coins is \$1.96. How many of each coin does he have?

Makayla's dimes and nickels total \$6.20. If the dimes were replaced by nickels and the nickels were replaced by dimes, then she would have \$8.50. How many of each coin does she have?

Savannah's nickels and dimes total \$9.05. If the nickels were replaced by quarters then she would have \$16.85. How many of each coin does she have?

Madison has two times as many pennies as quarters. If Madison had six more quarters and ten fewer pennies, she would have the same number of each coin. How much money does she have?

Name: _____

Ava is trying to learn decimals. She only knows fractions. She's known fractions since she was 3. Now she is trying to learn decimals. Help her convert $\frac{3}{5}$ to a decimal.

Put one line under the smallest number. Put two lines under the next smallest, and so on. The largest number should have 4 lines under it.

-9.7

10.2

-9.9

10.4

Name: _____

		+		x		=	
+	?	C	B				96
-	A	B	C				95
=	B	B	C				91
	16	12	7				

Equations and Hints:

Each letter is a whole number.

Fill in the equations using the chart:

$$C + B - B = 12 \quad B + B \times C = \underline{\quad} \quad \underline{\quad} + \underline{\quad} - \underline{\quad} = 7$$

$$\underline{\quad} + \underline{\quad} \times \underline{\quad} = 95$$

Additional hints:

$$C = A + 1 \quad A < 18$$

Show Work:

Solve:

$$? = \underline{\quad}$$

Name: _____

There are 5000 watts of continuous power available from the Big Town thermal spring. The Littleville thermal spring has 22 times that much power available. How much continuous power is available at the more powerful spring?

Edgewater Elementary School recently participated in a survey done by the local university. The College of Education had made an arrangement with our principal for the survey. They wanted to determine if students thought male teachers or female teachers were more lenient. 27% of the students thought female teachers were more lenient, 7% said they were the same, 6% had no opinion, and the rest of the students said male teachers were more lenient. On the day of the survey, there were four hundred sixty-two students at school. How many said male teachers were more lenient?

Some animal heads were stored at the veterinary office in a freezer. They were to be tested to see if the animals had rabies. If they had 16 specimens and could test two every half-day (a day being a workday of about 8 hours), how many days would it take to test them all?

The local football team wants to purchase enough tarp material to cover their field during bad weather. The field, including the end zones is 120 yards long and 50 yards wide. They want to get exactly seventeen percent more than is needed to cover the field so some of the sidelines and area beyond each end zone are covered as well. How many square yards of tarp material should they buy?

What is the probability of choosing a heart from a standard deck of 52 randomly arranged playing cards?

If a cube with a 6 in side length is sliced in half what is the surface area of the two pieces?

Name: _____

Ms. Crump always includes a few bonus questions on her tests. If you get them wrong, they don't count against your score, so you might as well try them. However, on the last test she said you were only allowed to answer two of the seven bonus questions offered. How many combinations of two questions could have been selected from the seven bonus questions?

Proteins are made from linear sequences of amino acids. How many different proteins could be made from the amino acids phenylalanine, glutamic acid, and lysine?

The more leaf area a plant has the more photosynthesis it can do to build sugar molecules out of carbon dioxide and water. If a leaf can photosynthesize at an arbitrary rate of say eleven units per minute per square centimeter of leaf area, how much leaf area does the plant have if its total rate of photosynthesis is 1,738 units per minute?

Seafloor rocks from a secret area above the Arctic Circle were recently analyzed by Z-Globe. The company had a contract with Spacegov.biz to test the rocks for nickel. Z-Globe found that four samples from the first location were composed of an average of 8.25% nickel. Ten samples from the second location yielded an average of 5.81% nickel. What was the overall average nickel content of the rock samples? Round your answer to the nearest hundredth. (Remember it is not the average of the two averages.)

Sara ran the 100-meter dash in 12.09 seconds yesterday at track practice. Her friendly competitor (and twin sister), Holly, ran it in 12.4 seconds. Sara's time differed from her sister's by what percent? Round your answer to the nearest hundredth of a percent.

Professor Bloop estimated there were twenty-two million bacteriophages in a petri dish of bacteria. If he had sixteen such petri dishes, what was the total number of bacteriophages?

Page 1 Answers

- 1 10 feet wide by 15 feet long
- 2 43 feet width by 122 feet length
- 3 ninety-one members
- 4 28 inches wide by 45 inches long

Page 2 Answers

Page 3 Answers

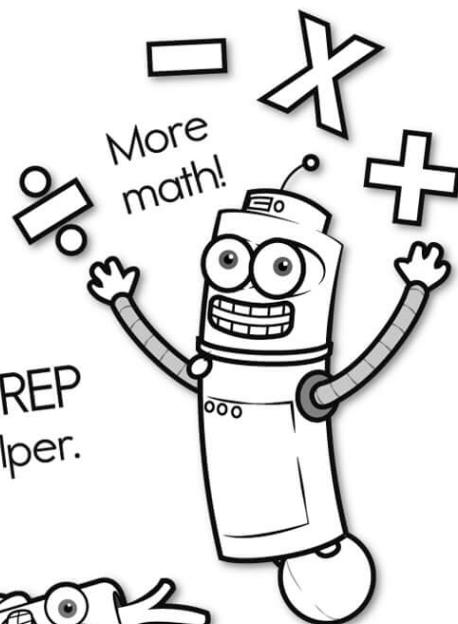
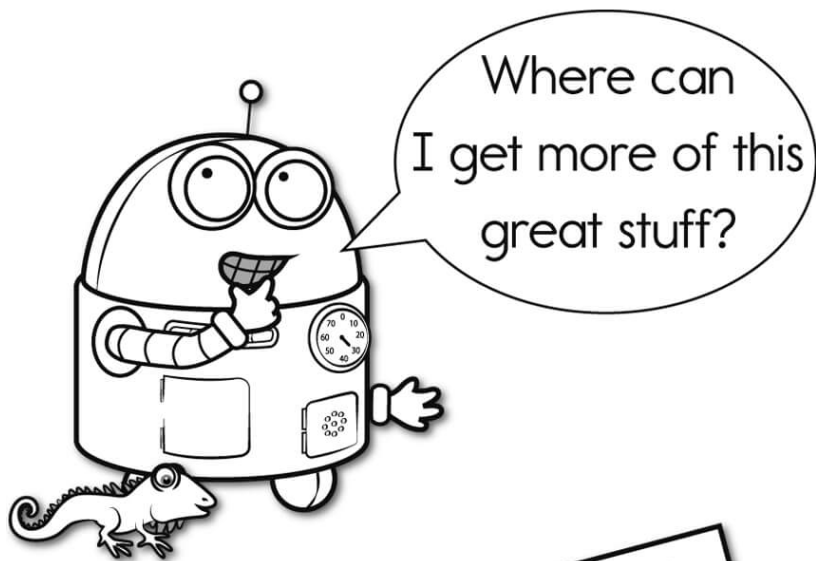
- 1 $5\frac{5}{11}$ hours
- 2 $1\frac{1}{2}$ hours
- 3 8 hours
- 4 8 hours and 12 minutes

Page 5 Answers

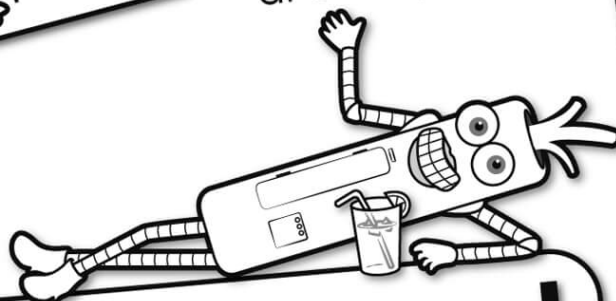
- 1 3 liters
- 2 4 liters
- 3 19 pounds of the candy with 1 pound of the chocolate
- 4 8 pounds

Page 6 Answers

- 1 sixteen pennies and eighteen dimes
- 2 seventy-two nickels and twenty-six dimes
- 3 thirty-nine nickels and seventy-one dimes
- 4 The total value of the coins is \$4.32.
(thirty-two pennies and sixteen quarters)

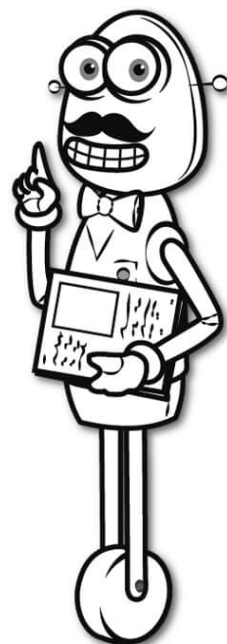


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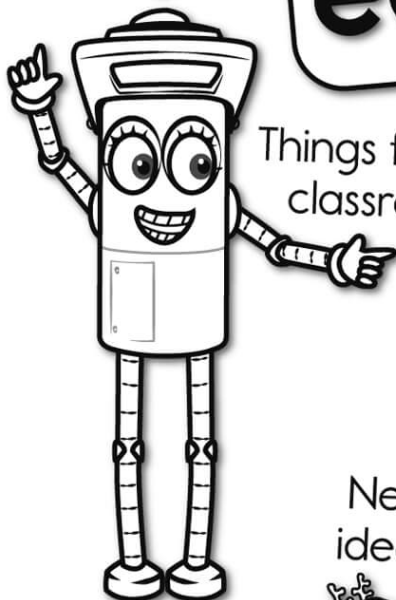
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