

Unit 1 - Section 1 (Non-Calculator)

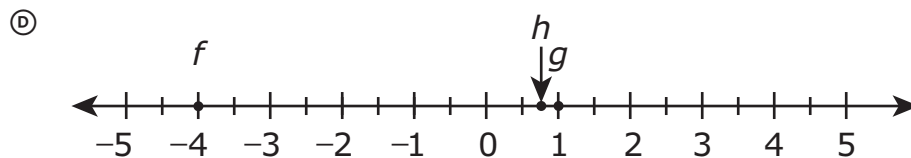
This unit has two sections: a non-calculator and a calculator section.

You will now take the first section of this unit in which you may not use a calculator. You will not be allowed to return to the non-calculator section of the test after you have started the calculator section. You will need to finish both sections within the allotted testing time.

Once you finish the non-calculator section, read the directions in your Test Booklet on how to continue.

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- $$h = -f$$



3. The area of a rectangular patio is $5\frac{5}{8}$ square yards, and its length is $1\frac{1}{2}$ yards. What is the patio's width, in yards?

- Ⓐ $3\frac{3}{4}$
- Ⓑ $4\frac{1}{8}$
- Ⓒ $7\frac{1}{8}$
- Ⓓ $8\frac{7}{16}$

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- **If you have time, review your answers in the non-calculator section ONLY. You will not be allowed to return to the non-calculator section once you have received your calculator.**
- **Then, raise your hand to receive your calculator before going on to the calculator section.**



6. Evaluate $5x^2 - 4$ when $x = 3$.

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Use the information provided to answer Part A and Part B for question 9.

The ratio of the sales tax to the amount of a purchase is a fixed number in Town Q. The table shows the sales tax for a purchase of \$1,200.

Town Q Tax

Purchase	Sales Tax
\$1,200	\$72
\$2,500	?
?	\$108

7. Part A

What is the sales tax for a purchase of \$2,500?

- Ⓐ \$18.06
- Ⓑ \$34.72
- Ⓒ \$144.00
- Ⓓ \$150.00

Part B

What is the cost of an item with a sales tax of \$108?

- Ⓐ \$432
- Ⓑ \$648
- Ⓒ \$1,092
- Ⓓ \$1,800



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- A coordinate plane with x and y axes. A point P is labeled $(n, 3)$ and is located in the first quadrant. A point R is located on the y-axis, above the x-axis, and is labeled R .

Enter your answers and your explanations in the space provided.



9. A company makes yellow golf balls and white golf balls. The table shows the company's sales of yellow golf balls for the last 3 years.

Yellow Golf Balls

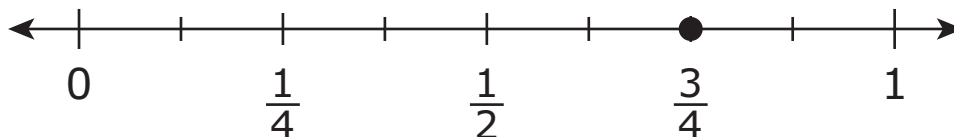
Year	Number of Yellow Golf Balls Sold
1	204,132
2	225,624
3	237,108

- The company expects sales of yellow golf balls to continue to increase in year 4.
- The company also expects the ratio of yellow golf ball sales to white golf ball sales in year 4 to be about 1 : 5.
- The average selling price of a box of 12 yellow or 12 white golf balls is \$23.94.

Estimate the company's total sales, in dollars, of golf balls in year 4. Show all your work. Explain how you determined your estimate.

Enter your estimate, your work, and your explanation in the space provided.

This diagram shows a number line.



James has a board that is $\frac{3}{4}$ foot long. He wants to cut the board into pieces that are each $\frac{1}{8}$ foot long.

How many pieces can James cut from the board? Explain how James can use the number line diagram to determine the number of pieces he can cut from the board.

Enter your answer and your explanation in the space provided.

A student filled a right rectangular prism-shaped box with one inch cubes to find the volume, in cubic inches. The student's work is shown.

Top layer
(63 cubes)

- I packed my box full of cubes. Each cube has a volume of 1 cubic inch.
- I counted 63 cubes in the top layer.
- Since there are 9 layers of cubes below the top layer, I solved $63 \times 9 = 567$. So there are 567 cubes.
- The volume of my box is 567 cubic inches.



11. Part A

Explain why the student's reasoning is incorrect. Provide the correct volume, in cubic inches, of the box.

Enter your explanation and the correct volume in the space provided.



12. Part A

A group of hikers buy 8 bags of trail mix. Each bag contains $3\frac{1}{2}$ cups of trail mix. The trail mix is shared evenly among 12 hikers. How many cups of trail mix will each hiker receive? Show your work or explain your answer.

Enter your answer and your work or explanation in the space provided.

The hikers plan to visit a scenic lookout. They will rest after they hike 2 miles. Then they will hike the remaining $1\frac{3}{4}$ miles to the lookout. The trail the hikers will use to return from the lookout is $\frac{1}{2}$ mile shorter than the trail they will use to go to the lookout. Each hiker will bring $\frac{1}{4}$ gallon of water for each mile to and from the lookout.

- Determine the total distance each hiker will hike. Show your work or explain your answer.
- Determine the total number of gallons of water each hiker will bring. Show your work or explain your answer.

Enter your answers and your work or explanations in the space provided.

- He will buy 5 small fish for every 10 gallons of water in the aquarium.
- He will buy 8 large fish for every 40 gallons of water in the aquarium.

Enter your answers and your work or explanation in the space provided.