

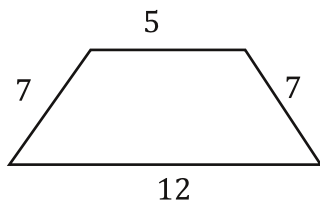
Perimeter

Around and around we go...

Perimeter is actually a very easy concept, but some of the problems can get tricky. We will practice all the tricky stuff so it's no sweat, but first....what is perimeter? Perimeter can be defined as the distance around a figure. It can also be defined as the sum of the sides of a figure. The second one is the most useful for us. Let's look at two examples.

Find the perimeter of each figure...(All dimensions are in cm.)

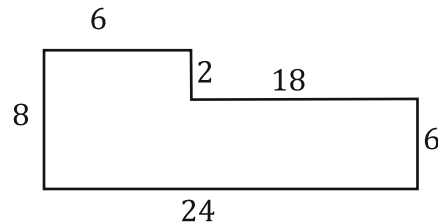
Ex. 1.



$$P = 7 + 5 + 7 + 12$$

$$P = 31 \text{ cm}$$

Ex. 2.

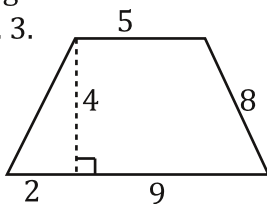


$$P = 8 + 6 + 2 + 18 + 6 + 24$$

$$P = 64 \text{ cm}$$

That was easy, huh? Okay, here comes the first trick... missing dimensions. This first one is missing a side. Use what you know about the Pythagorean theorem to find this dimension first. Then find the perimeter. NOTE: YOU CAN'T USE THE SIDE LABELED "8" AND ASSUME THE MISSING SIDE IS 8 TOO. That goes for trapezoids, triangles, and anything else slanted unless they are marked congruent.

Ex. 3.



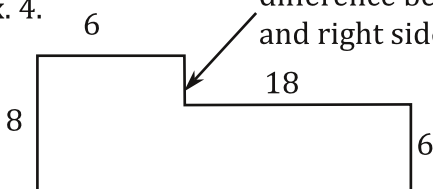
$$\begin{aligned} a^2 + b^2 &= c^2 \\ 2^2 + 4^2 &= c^2 \\ 4 + 16 &= c^2 \\ 20 &= c^2 \\ \sqrt{20} &= \sqrt{c^2} \\ 4.47 &= c \end{aligned}$$

$$\begin{aligned} P &= 4.47 + 5 + 8 + 9 + 2 \\ P &= 28.47 \text{ cm} \end{aligned}$$

Notice the "4" is missing. That's because it is not an outside dimension. Don't be fooled.

The next trick... more missing dimensions... For some reason with these kinds of problems they won't draw in 90 boxes or tell you if lines are parallel. You are just supposed to assume they are. So here are two rules for these kinds of problems involving perimeter. #1. Things that look like rectangles are actually rectangles. #2. Lines that look parallel are in fact parallel. Check these out...

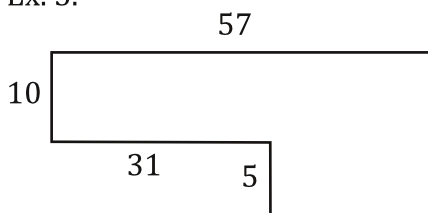
Ex. 4.



Notice this dimension is missing!!!
Oh no!!! Don't panic. It's just the difference between 8 and 6 (the left and right sides) so it is 2.

Notice this dimension is missing too!!! This one is just $6 + 18$, the dimensions of the two top pieces added. So it's 24.

Ex. 5.



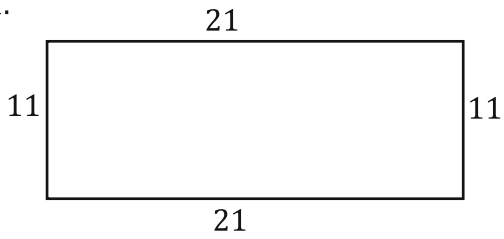
You guessed it! $10 + 5 = 15$

This one is... $57 - 31$ so 26

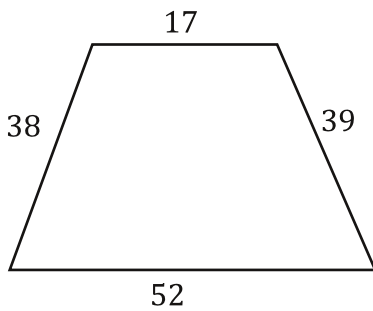
There is one more trick, but we will cover it in a couple of examples later. Let's have a go 'round!

Calculate the perimeter of each figure...

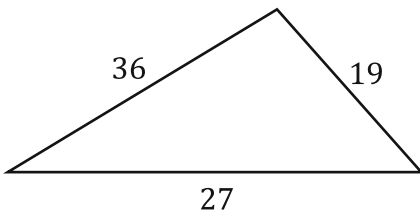
1.



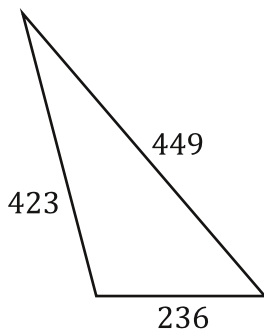
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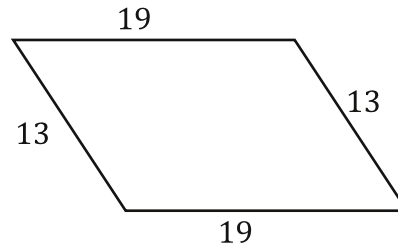
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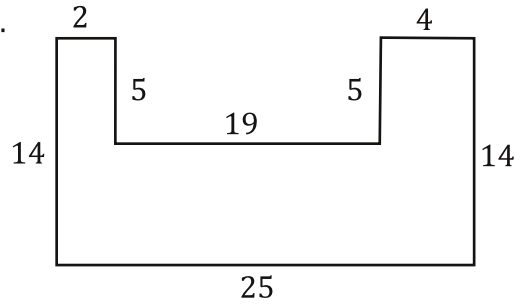
7.



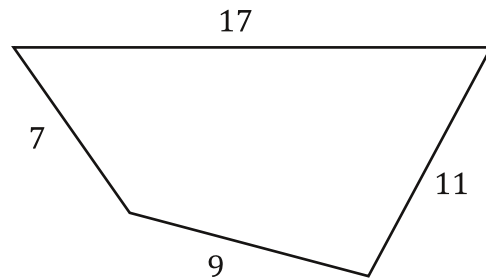
2.



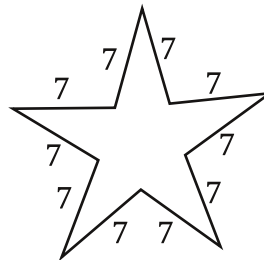
4.



6.



8.

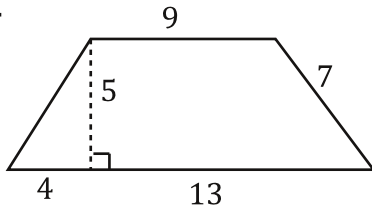


Bubble all the correct answers from above. Don't bubble incorrect answers.

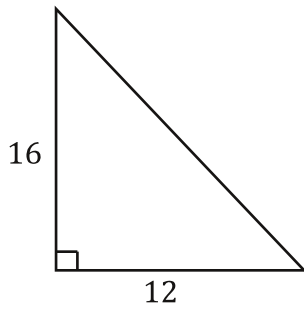
☐ 70 ☐ 82 ☐ 1108 ☐ 64 ☐ 82 ☐ 64 ☐ 1801 ☐ 1111 ☐ 147 ☐ 88 ☐ 43 ☐ 146 ☐ 47 ☐ 44

Find any missing dimensions. Write them on the figure and then calculate the perimeter of each figure...

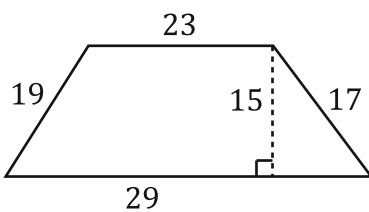
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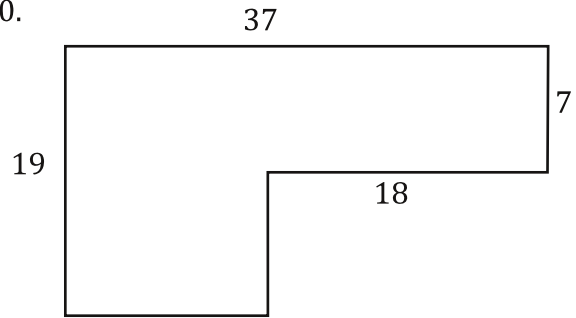
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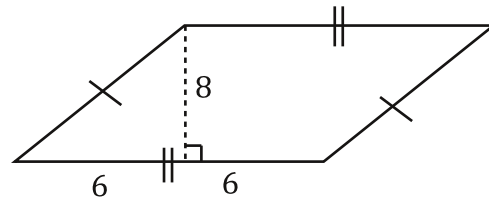
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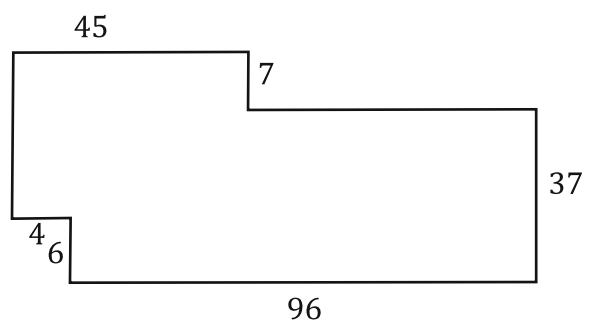
10.



12.



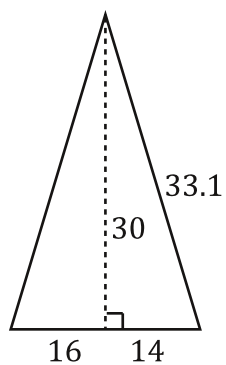
14.



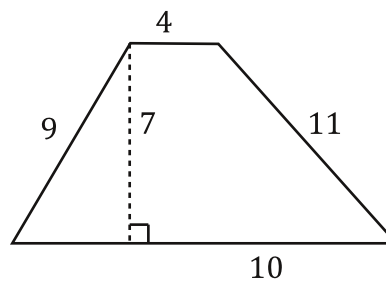
Bubble all the correct answers from above. Don't bubble incorrect answers.

- ☐ 37.4
 ☐ 39.4
 ☐ 112
 ☐ 120
 ☐ 48
 ☐ 45
 ☐ 96
☒ 44
 ☐ 264
 ☐ 288

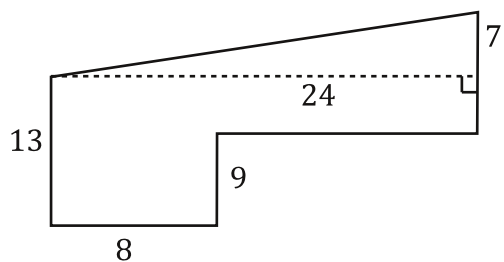
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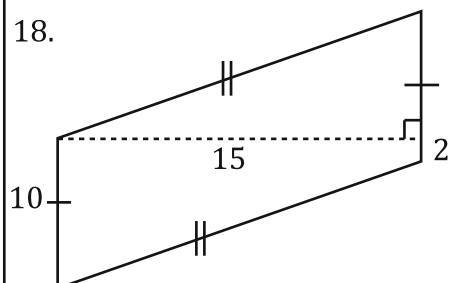
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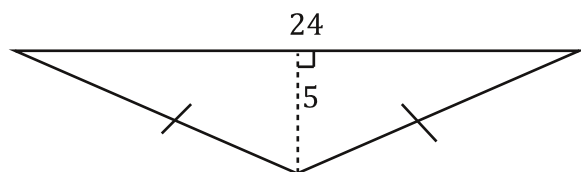
17.



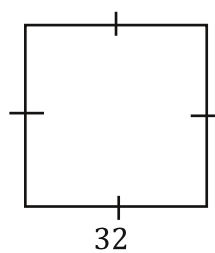
18.



19.



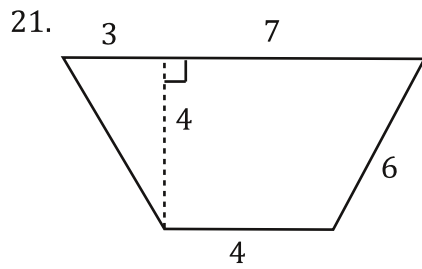
20.



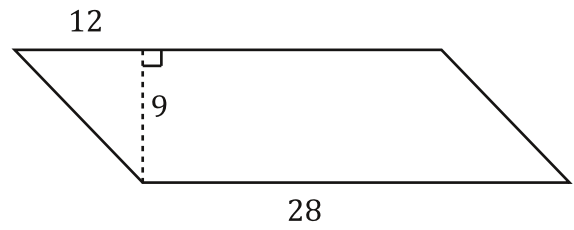
Bubble all the correct answers from above. Don't bubble incorrect answers.

☐ 82
 ☐ 84
 ☐ 60
 ☐ 50
 ☐ 128
 ☐ 136
 ☐ 9.7
 ☐ 5.7
 ☐ 97.1
 ☐ 54

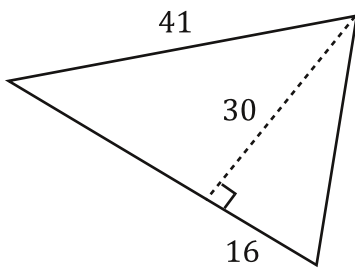
Calculate the perimeter of each figure...



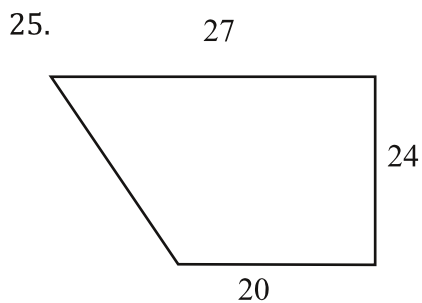
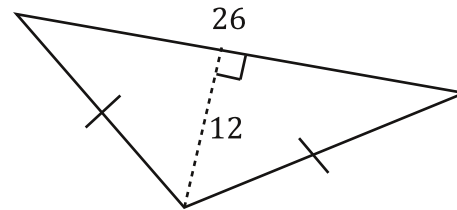
22.



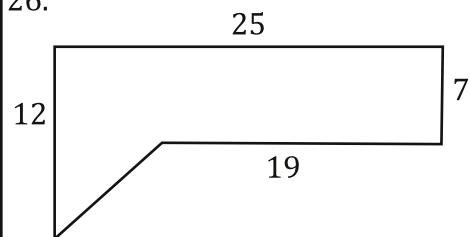
23.



24.



26.



Bubble all the correct answers from above. Don't bubble incorrect answers.

- ☐ 86
 ☐ 96
 ☐ 68.8
 ☐ 27.9
 ☐ 63.4
 ☐ 61.4
 ☐ 70.8
 ☐ 25
 ☐ 31.9
 ☐ 58.4

For these, draw a picture... It will help a lot!

27. Find the perimeter of a square with sides that are 12 inches long.

29. A right triangle has a hypotenuse that is 40m long and one leg that is 32m long. Find the perimeter of the triangle.

31. A rectangular yard is 17ft by 9ft. How many feet of fence is necessary to enclose the yard?

28. How many feet will you have to walk around a rectangle that has a base of 14 feet and a height of 11 feet?

30. A square has sides that are 27mm long. What is the perimeter of the square?

32. A right triangle has a hypotenuse that is 9 inches long and one leg that is 4 inches long. What is the perimeter of the triangle?

Bubble all the correct answers from above. Don't bubble incorrect answers.

☐ 108 ☐ 45 ☐ 96 ☐ 21.1 ☐ 53 ☐ 52 ☐ 50 ☐ 51.1 ☐ 48 ☐ 18.1

33. Find the perimeter of a rhombus with sides that are 24 in long?

34. What is the perimeter of a piece of letter sized paper? (8 1/2" x 11")

35. A right triangle has one leg that is 24 feet long and another that is 7 feet long. What is its perimeter?

36. The short side of a parallelogram is 6in long. the long side is 19 in. What is the perimeter of the parallelogram?

37. Your mom asked you to frame an 8x10 picture with a piece of yarn. What is the minimum length of yarn you need to buy to frame the picture?

38. A right triangle has a hypotenuse that is 15 inches long and one leg that is 9 inches long. What is the perimeter of the triangle?

Bubble all the correct answers from above. Don't bubble incorrect answers.

☐ 27 ☐ 38.1 ☐ 42.1 ☐ 36 ☐ 39 ☐ 50 ☐ 56 ☐ 36 ☐ 42.5 ☐ 96