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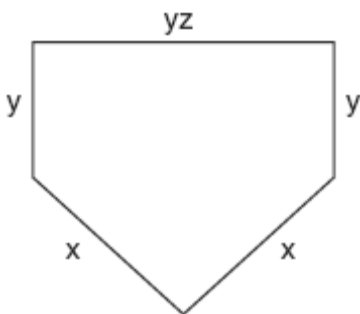
1. 089905a

The Pentagon building in Washington, D.C., is shaped like a regular pentagon. If the length of one side of the Pentagon is represented by $n + 2$, its perimeter would be represented by

- [A] $5n + 2$ [B] $n + 10$
 [C] $10n$ [D] $5n + 10$

2. 010603a

The lengths of the sides of home plate in a baseball field are represented by the expressions in the accompanying figure.



Which expression represents the perimeter of the figure?

- [A] $5xyz$ [B] $2x + 3yz$
 [C] $2x + 2y + yz$ [D] $x^2 + y^3z$

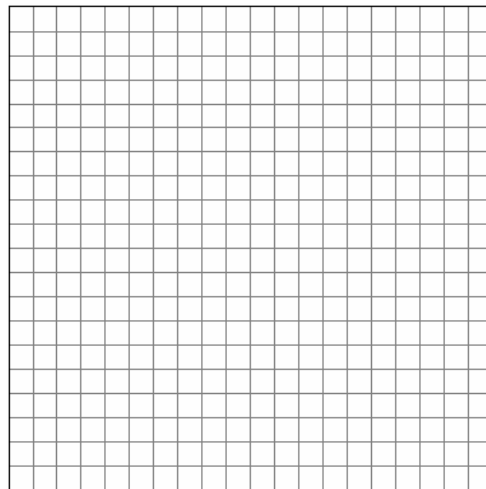
3. 060611a

The second side of a triangle is two more than the first side, and the third side is three less than the first side. Which expression represents the perimeter of the triangle?

- [A] $x + 5$ [B] $x^2 - x - 6$
 [C] $2x - 1$ [D] $3x - 1$

4. 060936ge, P.I. G.G.69

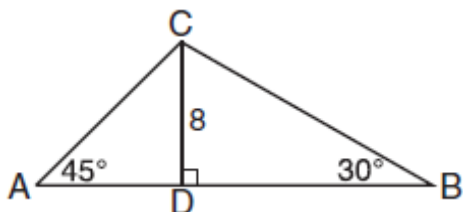
Triangle ABC has coordinates $A(-6,2)$, $B(-3,6)$, and $C(5,0)$. Find the perimeter of the triangle. Express your answer in simplest radical form. [The use of the grid below is optional.]



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5. 060931b

In the accompanying diagram, \overline{CD} is an altitude of $\triangle ABC$. If $CD = 8$, $m\angle A = 45^\circ$, and $m\angle B = 30^\circ$, find the perimeter of $\triangle ABC$ in simplest radical form.

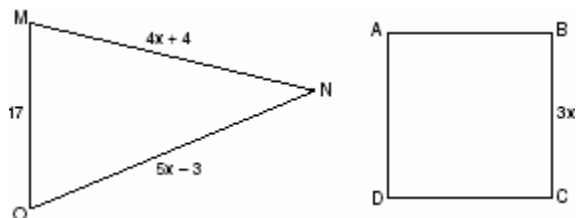


6. 080124a

An engineer measured the dimensions for a rectangular site by using a wooden pole of unknown length x . The length of the rectangular site is 2 pole measures increased by 3 feet, while the width is 1 pole measure decreased by 4 feet. Write an algebraic representation, in terms of x , for the perimeter of the site.

7. 080537a

In the accompanying diagram, the perimeter of $\triangle MNO$ is equal to the perimeter of square ABCD. If the sides of the triangle are represented by $4x + 4$, $5x - 3$, and 17, and one side of the square is represented by $3x$, find the length of a side of the square.



8. 060536a

Mr. James wanted to plant a garden that would be in the shape of a rectangle. He was given 80 feet of fencing to enclose his garden. He wants the length to be 10 feet more than twice the width. What are the dimensions, in feet, for a rectangular garden that will use exactly 80 feet of fencing?

9. 080639a

Manuel plans to install a fence around the perimeter of his yard. His yard is shaped like a square and has an area of 40,000 square feet. The company that he hires charges \$2.50 per foot for the fencing and \$50.00 for the installation fee. What will be the cost of the fence, in dollars?

[1] D _____

[2] C _____

[3] D _____

[4] $15 + 5\sqrt{5}$, and appropriate work is shown.

[3] Appropriate work is shown, but one computational error is made.

or [3] Appropriate work is shown, but the perimeter is not expressed in simplest radical form.

or [3] Appropriate work is shown to find the length of all three sides, but the perimeter is not found.

[2] Appropriate work is shown, but two or more computational errors are made.

or [2] Appropriate work is shown, but one conceptual error is made.

or [2] Appropriate work is shown to find the lengths of two sides, but no further correct work is shown.

[1] Appropriate work is shown, but one conceptual error and one computational error are made.

or [1] Appropriate work is shown to find the length of one side, but no further correct work is shown.

or [1] $15 + 5\sqrt{5}$, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[4] incorrect procedure.

[4] $24 + 8\sqrt{2} + 8\sqrt{3}$, and appropriate work is shown, such as labeling the diagram using special right triangle rules or right triangle trigonometry.

[3] Appropriate work is shown, but one computational error is made or the answer is not in simplest radical form.

or [3] The measures of the four segments are found correctly, but the perimeter is not found or is found incorrectly.

[2] Appropriate work is shown, but two or more computational errors are made.

or [2] Appropriate work is shown, but one conceptual error is made.

or [2] The measures of three segments are found correctly, but no further correct work is shown.

[1] Appropriate work is shown, but one conceptual error and one computational error are made.

or [1] The measures of two segments are found correctly, but no further correct work is shown.

or [1] $24 + 8\sqrt{2} + 8\sqrt{3}$, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[5] incorrect procedure.

[2] $6x - 2$ or an equivalent expression, and appropriate work is shown, such as $2(2x + 3) + 2(x - 4) = 6x - 2$.

[1] The length is represented correctly as $2x + 3$ and the width as $x - 4$, but the representation of the perimeter is determined incorrectly.

or [1] The length, the width, and the perimeter are represented appropriately, but by a variable other than x .

or [1] One or both dimensions are represented incorrectly, but the perimeter is represented appropriately.

[0] One or both dimensions are represented incorrectly, and the perimeter is not determined.

or [0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an

[6] obviously incorrect procedure.

[3] 18, and appropriate work is shown.

[2] Appropriate work is shown, but one computational error is made.

or [2] Appropriate work is shown, and the value of x is found, but no further correct work is shown.

[1] Appropriate work is shown, but two or more computational errors are made.

or [1] Appropriate work is shown, but one conceptual error is made.

or [1] A correct expression is written for the perimeter of each figure, but no further correct work is shown.

or [1] 18, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[7] incorrect procedure.

[3] 10 and 30, and appropriate work is shown, such as $2x + 2(2x + 10) = 80$ or trial and error with at least three trials and appropriate checks.

[2] Appropriate work is shown, but one computational error is made.

or [2] Appropriate work is shown, but only one of the dimensions is found.

or [2] The trial-and-error method is used to find a correct solution, but only two trials and appropriate checks are shown.

[1] Appropriate work is shown, but two or more computational errors are made.

or [1] The trial-and-error method is attempted and at least six systematic trials and appropriate checks are shown, but no solution is found.

or [1] An incorrect equation of equal difficulty is solved appropriately.

or [1] Appropriate solutions are found based on the incorrect use of the perimeter formula, such as $3x + 10 = 80$.

or [1] 10 and 30, but no work or only one trial with an appropriate check is shown.

[0] 10 or 30, but no work or only one trial with an appropriate check is shown.

or [0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an

[8] obviously incorrect procedure.

[4] 2,050, and appropriate work is shown, such as finding the length of one side of the field, finding the perimeter, and calculating $(2.50 \cdot 800) + 50$.

[3] Appropriate work is shown, but one computational error is made.

or [3] Appropriate work is shown, but the installation fee is not added to the cost of the fencing.

[2] Appropriate work is shown, but two or more computational errors are made.

or [2] Appropriate work is shown, but one conceptual error is made.

[1] Appropriate work is shown, but one conceptual error and one computational error are made.

or [1] 2,050, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[9] incorrect procedure.