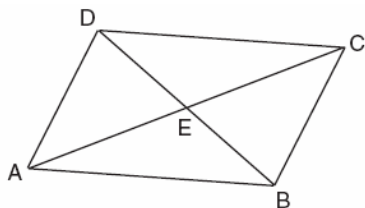


NAME: _____

1. 080202a, P.I. G.G.38

In the accompanying diagram of parallelogram $ABCD$, diagonals \overline{AC} and \overline{DB} intersect at E , $AE = 3x - 4$, and $EC = x + 12$.

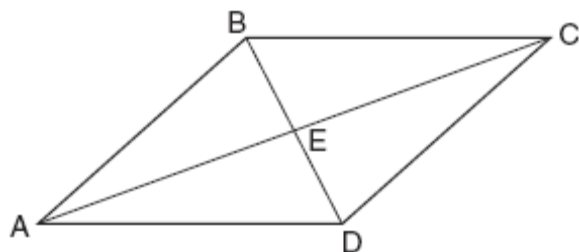


What is the value of x ?

- [A] 40 [B] 8 [C] 16 [D] 20

2. 060626a, P.I. G.G.38

In the accompanying diagram of parallelogram $ABCD$, diagonals \overline{AC} and \overline{BD} intersect at E , $BE = \frac{2}{3}x$, and $ED = x - 10$.

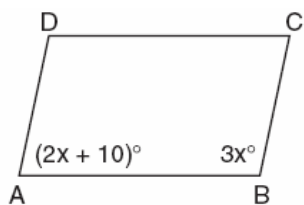


What is the value of x ?

- [A] 6 [B] -6 [C] 30 [D] -30

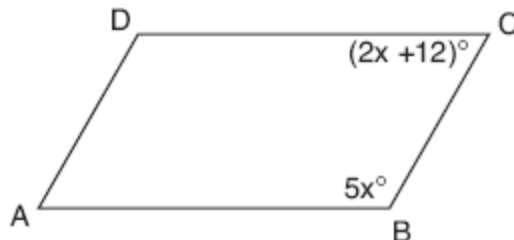
3. 060126a, P.I. G.G.38

In the accompanying diagram of parallelogram $ABCD$, $m\angle A = (2x + 10)$ and $m\angle B = 3x$. Find the number of degrees in $m\angle B$.



4. 060736a, P.I. G.G.38

In the accompanying diagram of parallelogram $ABCD$, $m\angle B = 5x$ and $m\angle C = 2x + 12$. Find the number of degrees in $\angle D$.



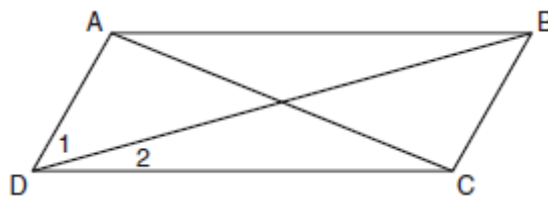
5. 080618a, P.I. G.G.38

The measures of two consecutive angles of a parallelogram are in the ratio 5:4. What is the measure of an obtuse angle of the parallelogram?

- [A] 160° [B] 100° [C] 80° [D] 20°

6. 080907ge, P.I. G.G.38

In the diagram below of parallelogram $ABCD$ with diagonals \overline{AC} and \overline{BD} , $m\angle 1 = 45$ and $m\angle DCB = 120$.



What is the measure of $\angle 2$?

- [A] 30° [B] 15° [C] 60° [D] 45°

7. 080735a, P.I. G.G.39

In rhombus $ABCD$, the measure, in inches, of \overline{AB} is $3x + 2$ and \overline{BC} is $x + 12$. Find the number of inches in the length of \overline{DC} .

[1] B _____

[2] C _____

[3] 102, and appropriate work is shown, such as using the equation $2x + 10 + 3x = 180$ or an equivalent equation.

[2] The equation $2x + 10 + 3x = 180$ is solved correctly for x , but $m\angle B$ is not determined or is determined incorrectly.

[1] Appropriate work is shown, but one computational error is made or x is not determined.

or [1] The equation $2x + 10 + 3x = 360$ is solved correctly, and an answer of 210 is found.

or [1] 102, but no work is shown.

[0] The equation $2x + 10 = 3x$ where $x = 10$ is given.

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

[3] obviously incorrect procedure.

[3] 120, and appropriate work is shown, such as solving the equation $5x + 2x + 12 = 180$.

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

or [2] The correct equation is solved for x , 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 equation is written, but no further correct work is shown.

or [1] An incorrect equation of equal difficulty is solved appropriately, and an appropriate measure is found for $\angle D$.

or [1] 120, 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.

[5] B _____

[6] B _____

[2] 17, and appropriate work is shown, such as solving the equation $x + 12 = 3x + 2$.

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

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

or [1] A correct equation is written and solved for x , but no further correct work is shown.

or [1] 17, 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.
