

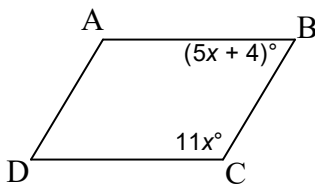
Definition: a quadrilateral in which both pairs of opposite sides are parallel. Because of that, we can prove that every parallelogram has the following set of *properties*:

- both pairs of opposite sides are parallel (of course, by definition); and
- consecutive angles are supplementary,
- opposite angles are congruent,
- if there is one right angle, then all the angles are right,
- opposite sides are congruent, and
- the diagonals bisect each other.

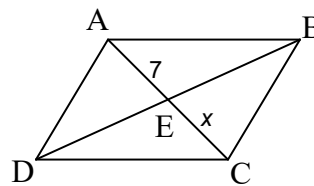
Lots of opportunities for algebra here.

ABCD is a parallelogram. (Maybe not to scale). Solve for x .

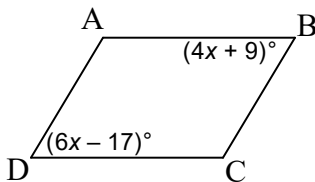
1. $x =$ _____



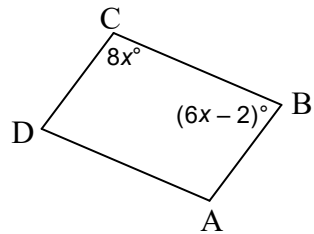
5. $x =$ _____



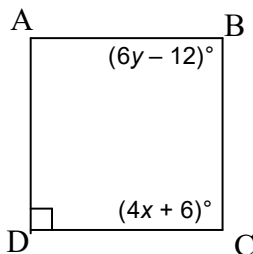
2. $x =$ _____



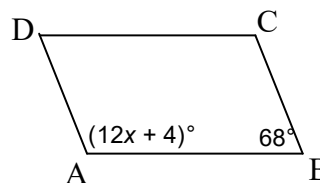
6. $x =$ _____



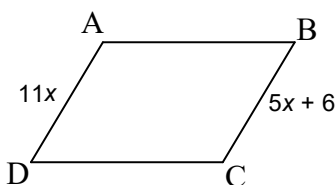
3. $x =$ _____, $y =$ _____



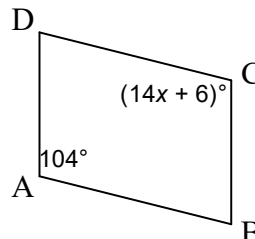
7. $x =$ _____



4. $x =$ _____

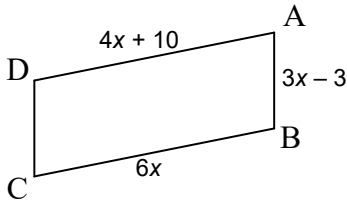


8. $x =$ _____

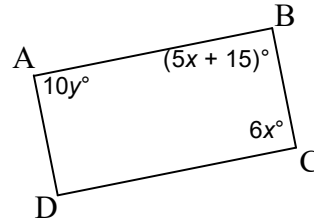


All figures are parallelograms. Solve for the variable(s) indicated.

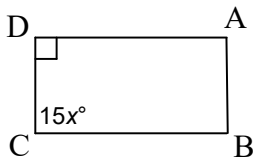
9. $x =$ _____



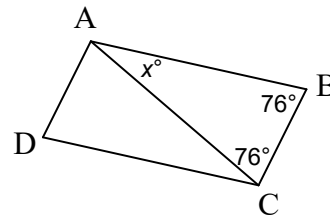
14. $x =$ _____, $y =$ _____



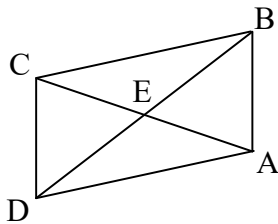
10. $x =$ _____



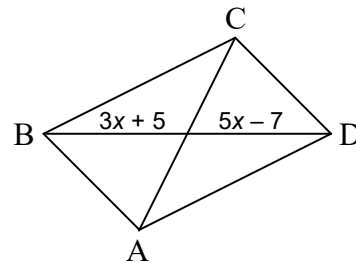
15. $x =$ _____



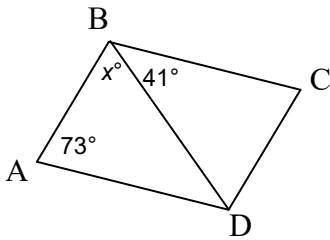
11. $BD = 23.4$; $EB =$ _____



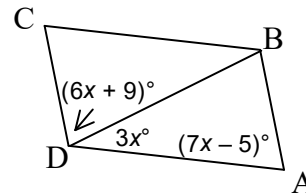
16. $BD =$ _____



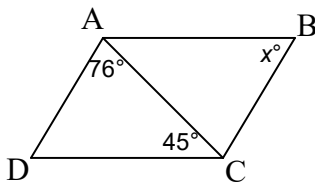
12. $x =$ _____



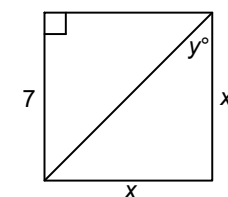
17. $x =$ _____



13. $x =$ _____



18. $x =$ _____, $y =$ _____



ANSWERS

per ___ date _____

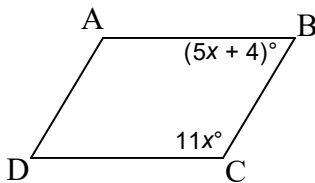
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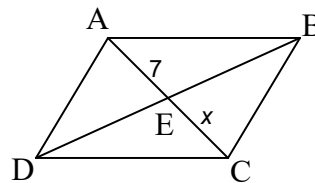
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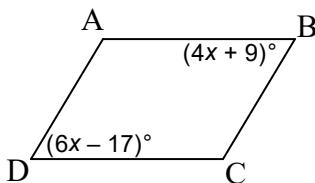
1. $x = \underline{11}$



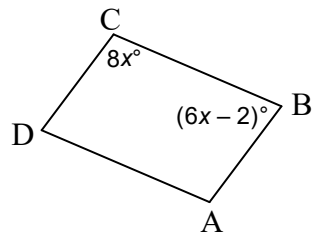
5. $x = \underline{7}$



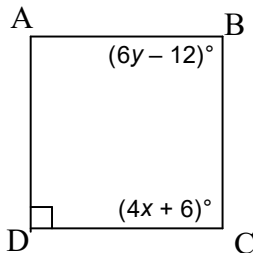
2. $x = \underline{13}$



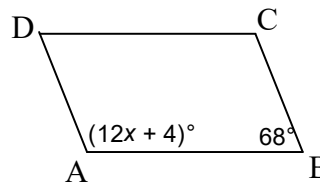
6. $x = \underline{13}$



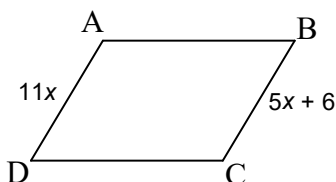
3. $x = \underline{21}$, $y = \underline{17}$



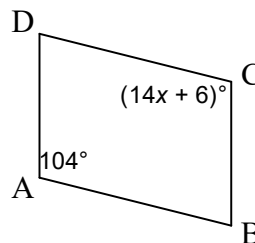
7. $x = \underline{9}$



4. $x = \underline{1}$



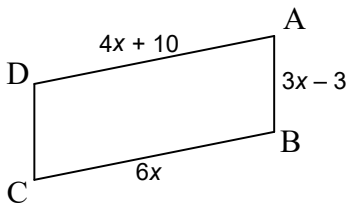
8. $x = \underline{7}$



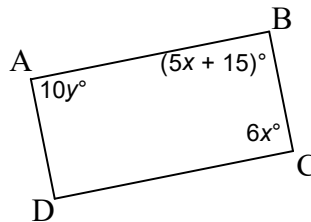
ANSWERS

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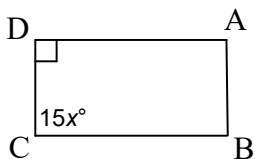
9. $x = \underline{5}$



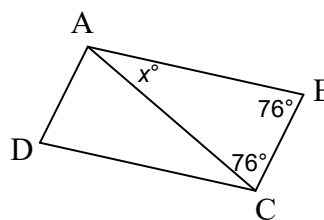
14. $x = \underline{15}$, $y = \underline{9}$



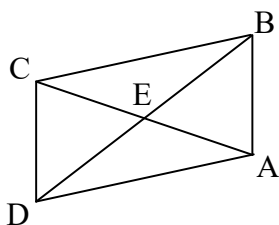
10. $x = \underline{6}$



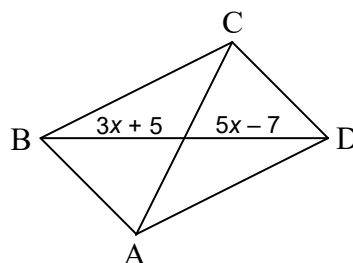
15. $x = \underline{28}$



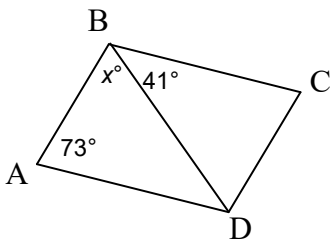
11. $BD = 23.4$; $EB = \underline{11.7}$



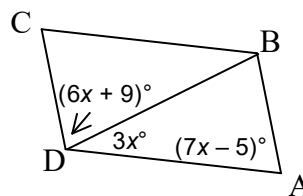
16. $BD = \underline{46}$



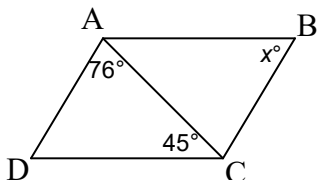
12. $x = \underline{66}$



17. $x = \underline{11}$



13. $x = \underline{59}$



18. $x = \underline{7}$, $y = \underline{45}$

