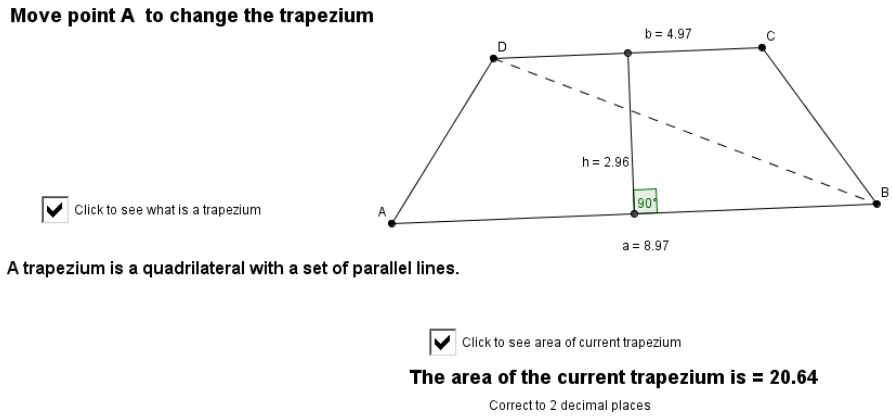
Student Activity: To investigate trapeziums

Use in connection with the Interactive file, 'Trapezium', on the Student's CD.



1. What is meant by a trapezium? (See interactive file if necessary.)

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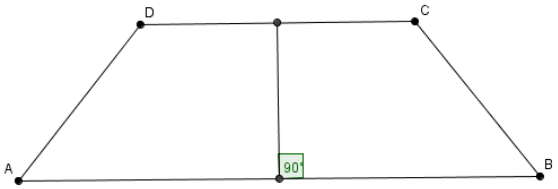
2. Which sides of the trapezium below are parallel?



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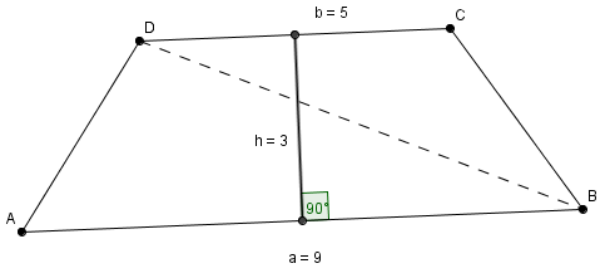
3.



a. What is the perpendicular height of the triangle *ABD*? _____

b. What is the area of the triangle *ABD*? Show your calculations.

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_____

c. What is the perpendicular height of the triangle *BCD*? _____

d. What is the area of the triangle *BCD*? Show your calculations.

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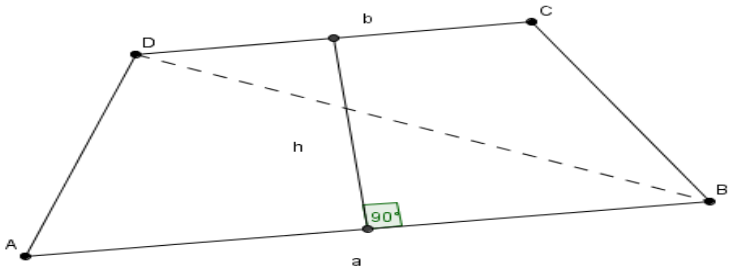
e. Hence, what is the area of trapezium *ABCD*? Show your calculations.

_____

4.



a. Find the area of the trapezium *ABCD* in terms of a, b and h. Show your calculations.

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b. Is the formula you got in **a** above true for all trapeziums?

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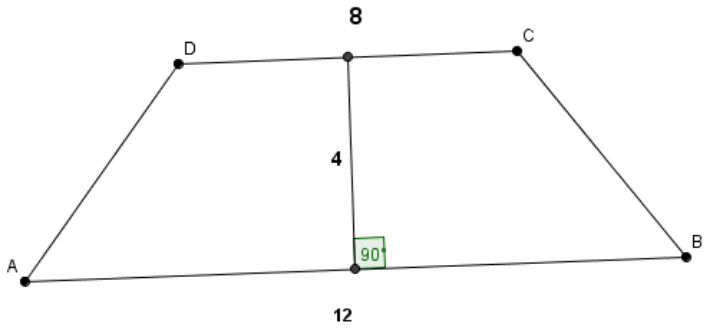
5.



Find the area of the trapezium *ABCD* represented in the above diagram. Show your calculations.

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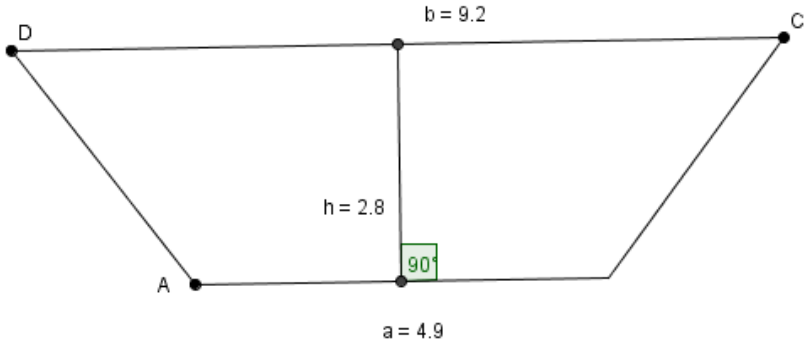
6.



Find the area of the trapezium *ABCD* represented in the above diagram. Show your calculations.

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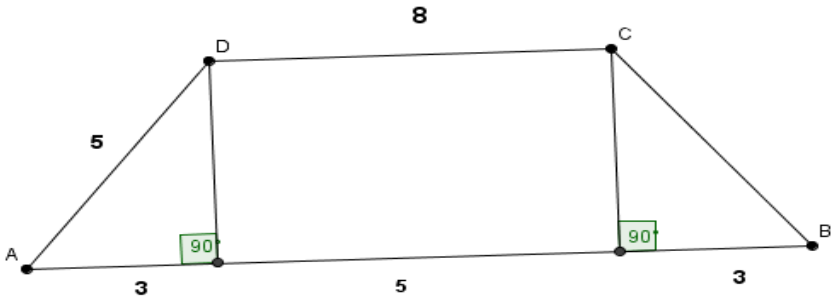
7.



a. Find the area of the trapezium represented in the above diagram. Show your calculations.

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b. Find the perimeter of the above trapezium. Show your calculations.

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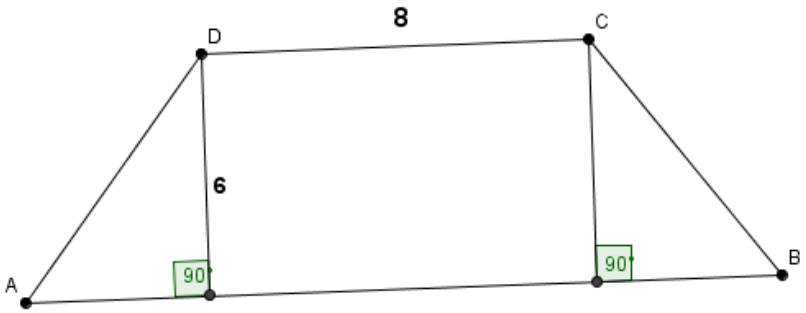
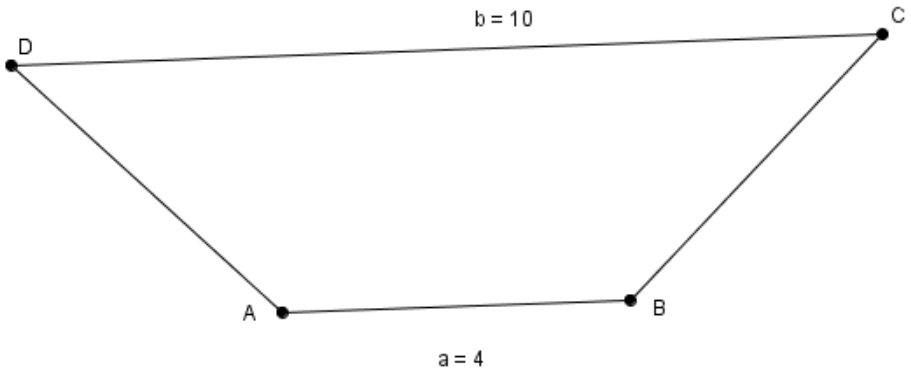
8. A trapezium of the following shape is to be cut from a piece of material. What is the area of material that will be required and how much material will be wasted?



9. Find the perpendicular height of the following trapezium given the area is 20.8 cms^2.



10. If you found a rubbish skip, with no lid, whose sides are in the shapes of trapeziums, what lengths would you need to measure to get the surface area of the skip?

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