Work Notes enriched

Work definition _____

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Holding is not an example of work because directional movement must be involved.

Formula:

Variables:

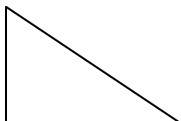| W		
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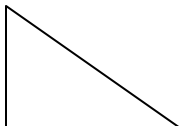**Conversions:**   **Triangle:**

- In a pulling question if they give you the force (hypotenuse), you need to find the effective force (direction) because the force (F) must be parallel to the direction travelling.
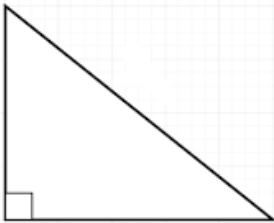
Practice questions
1. What is the work done if a boy pulls a box with an effective force of 30 N over a distance of 3 m?
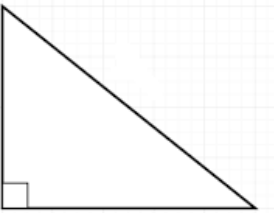
2. What work is accomplished when a man pulls a carriage an effective force of 50.0 N over a distance of 1.0 km?

3. What is the force applied if a boy does 7 000.0 J of work while walking up a hill for 2.00 km?

4. What is the distance travelled if a girl pulls a wagon for 20 minutes and uses 1 500 J of energy and exerts 20 N of force?

5. What is the work done when a girl drags her school bag across the pavement for 70 m with a force of 40 N at a 30° angle?

6. What is the work done if a skier weighing 90 kg goes down a hill at a 20° angle for 3 km?

Past Exam question

1. Brad is pulling his daughter Ashley on a sleigh. The rope is at an angle of 47° with the horizontal. Brad has a mass of 87 kg and exerts a force equal to his weight and pulls his daughter for 1.0 km. How much work is done by brad?