Design and Technology Term 3:

Preparing for the Mechanisms and Controls Test

Grade 8 & 9

Applied Questions

1	To pull a weed out of a garden, you can apply a force of 50 N to the shovel. The shovel applies a force of 600 N to the weed. What is the mechanical advantage of the shovel?
2	To pry a nail out of a wall, you can apply a force of 50 N to the hammer. The hammer applies a force of 650 N to the nail. What is the mechanical advantage of the hammer?
3	To lift a block on a movable pulley, you can apply a force of 50 N to a rope. The rope applies a force of 700 N to the block. What is the mechanical advantage of the rope?
4	To pull apart two pieces of wood, you can apply a force of 50 N to the lever. The lever applies a force of 640 N to the weed. What is the mechanical advantage of the lever?
5	To lift a refrigerator, you can apply a force of 50 N to a wedge. The wedge applies a force of 550 N to the refrigerator. What is the mechanical advantage of the wedge?
6	To pry open a soda can lid, you can apply a force of 50 N to a car key. The car key applies a force of 390 N to the lid. What is the mechanical advantage of the car key?
7	To lift a bookshelf, you can apply a force of 50 N to a wedge. The wedge applies a force of 800 N to the bookshelf. What is the mechanical advantage of the wedge?
8	To pry a wooden board off of a treehouse, you can apply a force of 50 N to a lever. The lever applies a force of 750 N to the treehouse. What is the mechanical advantage of the lever?
9	To lift a television, you can apply a force of 50 N to a wedge. The wedge applies a force of 480 N to the weed. What is the mechanical advantage of the wedge?
10	To remove a tree from a yard, you can apply a force of 50 N to the shovel. The shovel applies a force of 900 N to the tree. What is the mechanical advantage of the shovel?

Answers

	Mechanical Advantage
1	12
2	13
3	14
4	12.8
5	11
6	7.8
7	16
8	15
9	9.6
10	18