**Year 7 Forces Revision**

1. List four examples of a pushing force.

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2. Explain the difference between a contact force and a non-contact force. Give

two examples of each type.

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3. Identify whether the forces are balanced or unbalanced in each of the following cases.

a) A Formula 1 car accelerating from the starting grid.

b) A cyclist braking.

c) A satellite orbiting the Earth.

d) A person resting in an armchair.

e) A truck travelling at a constant speed on straight road.

4. Use the diagrams below to identify which direction (up, down, left, right or not at all) each object shown will move when acted upon by the forces shown.

A diagram of a diagram of a circle with arrows and circles

Description automatically generated

5. The total force acting on an object can be found by comparing the overall horizontal and overall vertical forces. A box is acted upon by three forces as shown below. Which way will the box move as a result of these forces?

A diagram of a cube with red arrows

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a) Upwards and to the left

b) Upwards and to the right

c) Downwards and to the left

d) Downwards and to the right

6. Identify whether the forces of thrust and drag on an aircraft are balanced in the following cases. If they are not balanced, state which is greater (thrust or drag).

a) The aircraft speeds up.

b) The aircraft slows down.

c) The aircraft cruises at constant speed.

7. Analyse the force diagram in Figure 7.5.3. below

A cartoon of a boat with a net and fish

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1. State in which direction the boat is moving.

b) Predict what will happen to the speed of the boat when many fish have been caught in the net.

c) If the boat is travelling at a constant speed, compare the size of the thrust and drag forces acting on the boat.

8. For the objects in the pictures below:

* Draw force arrows on the diagram.
* Label the arrow with the size of the force.
* State the direction of the resultant force.
* Calculate the resultant force.

A close-up of a chart

Description automatically generated

9. Recall gravity by selecting the correct term to complete the following sentences.

a) Gravity is a contact/non-contact force.

b) Gravity pulls/pushes objects towards the Earth.

c) All objects naturally attract/repel each other.

d) Objects fall at different speeds due to their weight/surface area.

10. Name the force that slows an object down as it falls.

11. The figure below shows three blocks of wood resting on different surfaces. If you were to pull each by its hook, propose which block would move with the

least friction and which block would move with the most friction.

A diagram of a diagram of a block

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