Pressure and moments

1. Which unit is used to measure pressure? Underline the correct answer.
   - newtons per square metre
   - newtons
   - seconds
   - metres

2. Underline the objects that create low pressure by spreading out force over a large area.
   - skis
   - tractor tyres
   - football boots
   - ice skates
   - snowshoes
   - javelin

3. For each pair of diagrams, tick the one that will result in the larger pressure.

4. A force of 10 N acts upon an area of 2 m². What would the pressure be? Underline the correct answer.
   - a 5 N/m²
   - b 10 m²
   - c 10 N/kg
   - d 20 N/m²

5. For each of the following sentences, underline true or false.
   - a Liquids cannot be compressed.
   - b Gases cannot be compressed.
   - c The pressure is increased if more gas particles are added to a container.
   - d The fewer times the gas particles hit their container, the higher the pressure.
6 Look at the diagrams of syringes. A force is applied on the left-hand plunger.

a Which pair of syringes will produce the larger force at A? ........................................

b What is this system called? ..........................................................................................

7 Label the pivots on the drawings below.

8 Look at the diagram of a water tower.

a At which point will the water be under the most pressure? ............

b At which point will the water be under the least pressure? ..............

9 The arm is an example of a lever. What is the name of the pivot of the arm?

Underline the correct answer.

a biceps  b triceps  c forearm  d elbow

10 a What is the name for the effect a force has when it is applied to one end of a lever and tries to turn the lever? ..................................................................................

b What two things affect how easy it is to use a lever?

1 ....................................................................................................................

2 ....................................................................................................................
11 When you use a pair of scissors, it is easier to cut card with the tip of the scissors. Is this **true** or **false**?  

12 For each pair of diagrams, tick the one that will result in the bigger turning effect.

13 What will happen to the seesaw when both people get on? Choose from the answers below.

   - **A** It will turn in a clockwise direction.
   - **B** It will balance.
   - **C** It will turn in an anti-clockwise direction.

The correct answer is ****.

14 When anti-clockwise moments are equal to clockwise moments, a beam will balance.

Use this idea to calculate the size of the force needed on the right-hand side to balance the beam in the diagram.

The force needed is ****.