NAME:_____ DATE:_____

FORCES, PRESSURE AND GASES

1. Complete the following sentences: A force may be a _____, _____ or
_____.

2. The two categories of forces include _____ forces where objects must touch and
_____ forces where objects do not have to touch.

3. Number the definitions to match them to the words.

1	Contact
2	Non-contact
3	Mass
4	Weight
5	Friction
6	Newton
7	Kilogram

	The unit of mass.
	The force between objects that are not touching.
	A force which slows down motion.
	The amount of matter a substance contains.
	The unit of force.
	A force between objects that are touching.
	A force due to gravitational pull.

4. Find the words in the puzzle below.

FORCES WORDSEARCH

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U N B A L A N C E D V X A
T Z M B Z L N B Y R Z I Z
N B Y U D Y T I V A R G R
A Y F R P R N V D R Y E R
T B R B G T X X E Z T Z T
L Y I T L D H S W E W H Y
U X C N L T I R M L R B Y
S J T T O S H N U U Y S B
E N I J T T O G S S S D J
R R O A D T W T I A T J B
D W N D W X P E M E J L N
N C B E R N L R N T W L G
E V N J Q X M W B W Z D D
```

AIR RESISTANCE
FRICTION
GRAVITY
MASS
NEWTON
WEIGHT

RESULTANT
THRUST
UNBALANCED
UPTHRUST
METER

5. Put these words in the correct boxes to show the equation for calculating weight.

MASS **WEIGHT** **GRAVITY**

$$\boxed{} = \boxed{} \; X \; \boxed{}$$

6. Calculate the weight (in Newtons) of these aliens on their home planet. Type the **answer only** in the space.

m = 20kg
g = 34 m/s²
_____ N

A

m = 11kg
g = 3 m/s²
_____ N

B

m = 45kg
g = 9 m/s²
_____ N

C
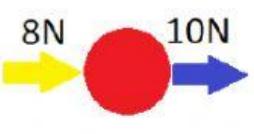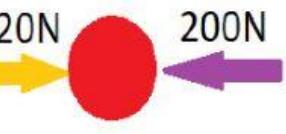
m= 89 kg
g = 12m/s²
_____ N

D

6b. Which alien lives on a planet that has gravity closest to that on Earth?   Alien _____

7. Calculate the resultant forces below.

	↑25N ↓15N	8N → 10N	120N → ← 200N
RESULTANT FORCE / N			
DIRECTION			

8. Calculate the pressure using the following equation: **Pressure = Force / Area.**   Write the answer only in the space.

a. Force is 560 N and the area is 28 m/s _____ Pascals

b. Force 7200 N and area is 8 m/s _____ Pascals

c. Force is 8525 N and 5 m/s _____ Pascals