Problem set 63 – *Individual Work Only*

NAME:_____ Number___

Questions 1-2: A person weighs 530 N. The person stands on the floor of an elevator.

1. On the dot below, draw a free-body diagram of the person.

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2. In each situation, say whether the force of the elevator on the person is greater than, less than, or equal to 530 N.

(a) The elevator moves upward at constant speed.

Answer:_____

Justification:

(b) The elevator moves upward while slowing down.

Answer:_____

Justification:

(c) The elevator moves downward while slowing down.

Answer:_____

Justification:

(d) The elevator moves downward at constant speed.

Answer:_____

Justification:

(e) The elevator moves downward while speeding up.
Answer:_____

Justification:

3. During a 5.0 s interval, an object's velocity changes from 25 m/s east to 15 m/s east.

(b) What is the amount of this object's acceleration?
(A) 5 m/s per second
(B) 3 m/s per second
(C) 10 m/s per second
(D) 2 m/s per second

Answer:_____

Justification:

(c) What is the direction of this object's acceleration?
(A) North
(B) South
(C) East
(D) West

Answer:_____

Justification: