Next-Time Question

Note the readings on the scales. Burl the painter has a weight of 600 N, and carries a 100-N bucket of paint. What is the weight of the scaffold?

Doesn't this make you think of the equilibrium rule: $\Sigma F = 0$?

700 N   500 N

Answer: 500 N

The scaffold is in equilibrium, so we see that in accord with $\Sigma F = 0$, the net force on the scaffold is zero. That means that the sum of the upward forces must be equal in magnitude to the sum of the downward forces. Note the scale readings add to 1200 N, the total force upward. The total force downward must then also be 1200 N. We see that Burl and his bucket of paint weigh 700 N. So the weight of the scaffold is 1200 N – 700 N = 500 N.

700 N   500 N

100N

600N

?