19

The function p is defined as $p(x) = x^2 - 3x$. If the function q is defined as $q(x) = p(x) - 4$, what is the value of $q(10)$?

A) −30
B) 6
C) 66
D) 70

$x^2 - 3x - 4$

$10^2 - 30 - 4$

$100 - 34$

20

If $c > 0$ and m and n are positive integers, which of the following is equivalent to $c^{\frac{m}{n}}$?

A) $\frac{c^m}{c^n}$
B) $cm - n$
C) $\left(\sqrt[m]{c}\right)^n$
D) $\left(\sqrt[n]{c}\right)^m$

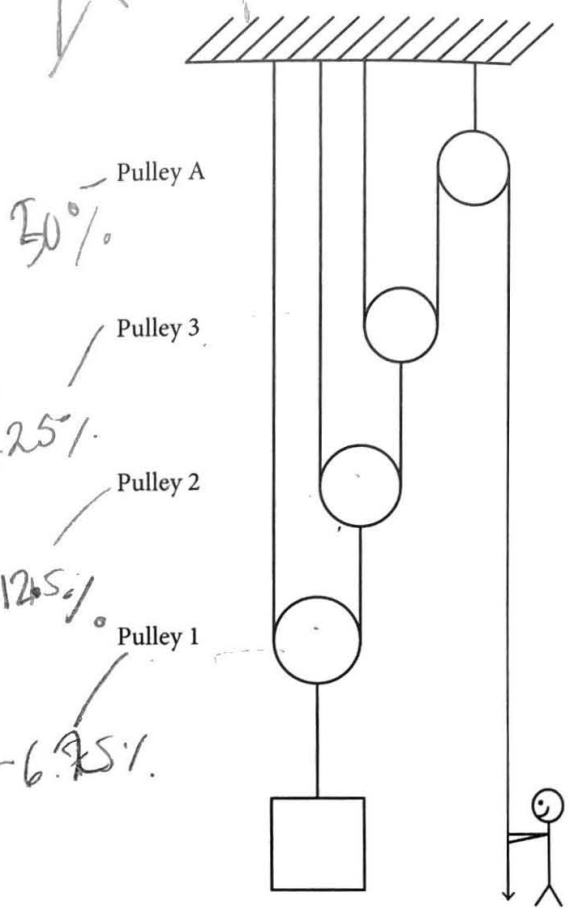
C^{m-n}

$\frac{cm}{c^n}$

$\sqrt[n]{c^m}$

21

explain



In the figure above, each pulley added to the pulley system after Pulley A reduces the amount of force required to lift an object to 50% of the original amount. If the system has three additional pulleys, what would be the approximate force, in Newtons, that is exerted to lift a weight that normally requires 200 pounds of force to lift? (1 Newton = 0.224 pounds)

A) 5.6
B) 11.2
C) 111.6
D) 223.2

200 lbs × $\frac{1 \text{ New}}{.224}$

892 Newtons

6.75

(.0675)(200)

13 lbs × $\frac{\text{New}}{.224 \text{ lbs}}$

60 .2

CONTINUE

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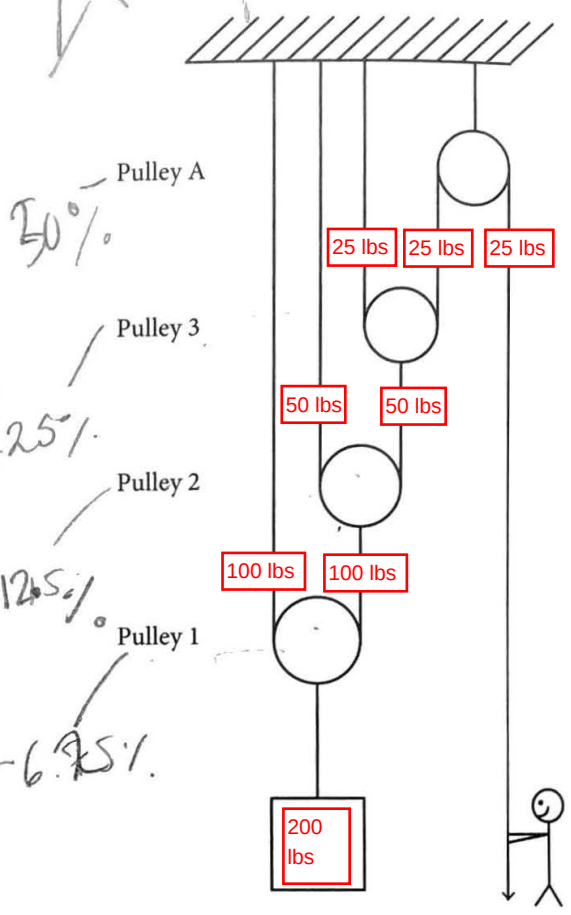
explain



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CONTINUE

ISBN: 0448 Page 580 Q 21
ISBN: 0581 Page 590 Q 21

1 Newton = 0,224 pounds or lbs

$$1 \text{ Newton} \times \frac{1}{0.224} = (0.224)\ \text{lbs} \times \frac{1}{0.224}$$

$$\frac{1}{0.224} \text{ Newton} = 1 \text{ lbs}$$

$$\left(\frac{1}{0.224} \text{ Newton}\right) \times (25) = (1 \text{ lbs}) \times (25)$$

$$(111.6)\ \text{Newton} = (25)\ \text{lbs}$$

ANSWER.