

CP - Nov 8

10.

4 cm
2 cm
1 cm
25 cm = Pitch
8 threads

$$IMA_{\text{screw}} = \frac{\text{Diameter} (\pi)}{\text{Pitch}}$$

$$= \frac{4 \text{ cm} (\pi)}{.25 \text{ cm}} = \boxed{50.27}$$

11.

4 ft
12.65 ft
12 ft

$$IMA = \frac{\text{length}}{\text{height}}$$

$$\frac{12.65}{4} = \boxed{3.1625}$$

12.

IMA = 3
3 purchase Pulley
60 lbs

$$IMA \times \text{Effort} = \text{Resistance}$$

$$3 \times \text{Effort} = 60 \text{ lbs}$$

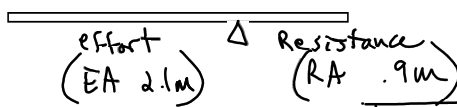
$$\boxed{\text{Effort} = 20 \text{ lbs}}$$

13.

15 ft
5 ft

$\frac{1}{3}$ distance
3 force

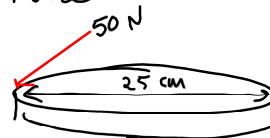
14.



effort (EA 2.1m) Resistance (RA .9m)

$$IMA = \frac{EA}{RA} = \frac{2.1m}{.9m} = \boxed{2.33}$$

15. Force of 50 N



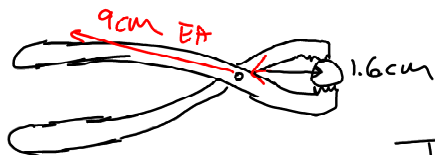
$$IMA = \frac{\text{Dia of what you turn}}{\text{Dia of what gets turned}}$$

$$\text{Effort} \times IMA = \text{output}$$

$$B. 50 N \times 12.5 = \boxed{625 N}$$

$$\frac{25 \text{ cm}}{2 \text{ cm}} = \boxed{12.5}$$

16. pliers



$$IMA = \frac{EA}{RA} = \frac{9 \text{ cm}}{1.6 \text{ cm}} = \boxed{5.63}$$