

Question #1: 14 cows eat 63 kg grass in 18 days. How many cows will eat 770 kg grass in 28 days.

Solution:

Grass	Days	Cows
↑ 63 kg	↓ 18	14 ↑
↑ 770 kg	↓ 28	x ↑

$$= \frac{x}{14} = \frac{110}{63} \times \frac{28}{18}$$

$$\frac{x}{14} = \frac{110}{1} \times \frac{2}{28}$$

$$\frac{x}{14} = \frac{220}{28}$$

$$x = \frac{220}{28} \times 14$$

$$= \boxed{x = 110 \text{ Cows}}$$

Question #2: A factory manufactures 560 fans in 7 days with 20 machines. How many fans would be manufactured in 12 days with 18 machines?

Solution:

Fans	Days	Machines
↑ 560	7 ↑	20 ↑
x	12 ↑	18 ↓

$$\frac{x}{560} = \frac{12}{7} \times \frac{18}{20}$$

$$\frac{x}{560} = \frac{40}{63}$$

$$\frac{x}{560} = \frac{108}{70}$$

$$\frac{x}{560} = \frac{108}{70}$$

$$x = \frac{108 \times 560}{70}$$

$$x = \frac{60480}{70}$$

$$x = \frac{108}{70} \times 560 = \boxed{x = 108 \times 8 = 864}$$

Question #3: The price of 80 shirts is Rs 22000. What will be the price of 30 shirts.

Solution, $80 : 22000 :: 30 : x$

$$= 80x = 660,000$$

$$= x = \frac{660,000}{80}$$

$$\boxed{x = 8250 \text{ Rupees}}$$

Question #4: (a) Hamza spends 20% of his total income on house rent, 70% on domestic expenditure. If his savings is Rs. 1800 what will be his total income.

Solution: let x be total income

after spending 20%, remains $80\% = \frac{80}{100}x$

after spending 70% = $30\% = \frac{30}{100}$

\therefore Income - Expenditure = Savings

$$= \frac{30}{100} \times \frac{80}{100} x = 1800$$

$$= \frac{24}{100} x = 1800$$

$$= x = \frac{300 \times 25}{1800 \times 100}$$
$$= \frac{24}{4}$$

$$x = 300 \times 25$$
$$x = 7500$$

(b) Change into fraction 70%

$$\text{Solution} = 70\% = \frac{70}{100}$$

(c) Find 15% of 600

$$\text{Solution: } \frac{15}{100} (600)$$

$$= 90\%$$

Question # 8 = (a) Which fraction is larger in the following

$$\frac{7}{9}, \frac{1}{4}, \frac{13}{36}$$

Solution: by making denominator common

$$= \frac{7 \times 4}{9 \times 4}, \frac{1 \times 9}{4 \times 9}, \frac{13 \times 1}{36 \times 1}$$

$$= \frac{28}{36}, \frac{9}{36}, \frac{13}{36}$$

$$= \frac{28}{36} > \frac{13}{36} > \frac{9}{36}$$

$$(b) \quad (a) \quad (7)^2 + x - (2 \times 4) \div 2$$

$$\begin{aligned} \text{Solution} &= 49 + x - (8) \div 2 \\ &= 49 + x - 8 \div 2 \\ &= 49 + x - 4 \\ &= 49 - 4 + x \\ &= \boxed{45 + x} \end{aligned}$$

$$(b) \quad 9 + 3 \div 3 \times 2$$

$$\begin{aligned} \text{Solution:} \quad &9 + 3 \div 3 \times 2 \\ &= 9 + 1 \times 2 \\ &= 9 + 2 \\ &= \boxed{11} \end{aligned}$$

$$(c) \quad (x^2)^3 = ?$$

$$\begin{aligned} \text{Solution} &= (x^2)^3 \\ &= x^{2 \cdot 3} \\ &= \boxed{x^6} \end{aligned}$$

$$(d) \quad x^a \cdot x^b = ?$$

$$\begin{aligned} \text{Solution} &= x^a \cdot x^b \\ &= \boxed{x^{a+b}} \end{aligned}$$

$$\frac{x^{a+b}}{x^{c-d}}$$

$$\begin{aligned} \text{Solution:} \quad &\frac{x^{a+b}}{x^{c-d}} \\ &= \boxed{x^{a+b-c+d}} \end{aligned}$$

(e) Convert into meter: 10 cm

$$\begin{aligned} \text{Solution:} \quad &\because 1 \text{ m} = 100 \text{ cm} \\ &= \frac{10}{100} \text{ m} \end{aligned}$$

$$10 \text{ cm} = \boxed{0.1 \text{ m}}$$