

## GIRLS' HIGH SCHOOL & COLLEGE, PRAYAGRAJ

WORKSHEET- 8

SESSION- 2020-2021

CLASS – VII(A,B,C,D,E,F)

SUBJECT – Maths

**Note** : Parents are expected to ensure that the child refers the chapter of the previous class or the internet.

**Website** : [www.wikipedia.com](http://www.wikipedia.com)

### CHAPTER – UNITARY METHOD

#### EXAMPLES OF DIRECT VARIATION

**Example1** : A man earns Rs.400 in 10 days. How much will he earn in 28 days ?

**Solution** : In 10 days, the man earns= Rs.400

Therefore, in 1 day, he will earn =  $\text{Rs.}400/10 = \text{Rs.}40$

[ Less money is earned in 1 day, so divide ]

$\Rightarrow$  In 28 days, he will earn =  $28 \times \text{Rs.}40$

= Rs.1,120 (Answer)

#### **QUESTIONS :**

**Solve the following sums:**

**Q1.** If the cost of 18 story books is Rs.198, then find the cost of 298 story books ?

**Q2.** If the fare for 48 km is Rs.288, what will be the fare for 36 km ?

**Q3.** If 3 dozen eggs cost Rs.90, find the cost of 3 scores of eggs.[ 1 score = 20 ]

**Q4.** The cost of  $\frac{3}{5}$  kg of ghee is Rs.96, find the cost of :

(i) One kg ghee

(ii)  $\frac{5}{8}$  kg ghee

#### EXAMPLES OF INVERSE VARIATION

**Example 2:** 4 men can do a work in 5 days. How many men will do it in 4 days ?

**Solution:** In 5 days, the work is done by 4 men.

Therefore, in one day, the work will be done by  
 $\Rightarrow 4 \times 5 = 20$  men

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[ More number of men are required to do the work in 1 day, so multiply ]

In 4 days, the work will be done by

$$\Rightarrow 20/4 \text{ men} = 5 \text{ men}$$

**QUESTIONS :**

**Solve the following sums :**

**Q5. If 52 men can do a piece of work in 35 days, then 28 men will complete the same work in how many days ?**

**Q6. In a camp there is enough food for 500 soldiers for 35 days. If 200 more soldiers join the camp, how many days will the food last ?**

**Q7. 32 workers can complete a work in 84 days. How many workers will complete the same work in 48 days ?**

**Q8. 16 men can build a wall in 56 hours. How many men will be required to do the same work in 32 hours ?**

**Example 3: A completes a piece of work in 4 days and B completes it in 6 days. How long will it take to complete the same work, if they both work on it together ?**

**Solution :** Given, A does the work in 4 days,

Therefore, A's 1 day work =  $\frac{1}{4}$  And,

B does the work in 6 days,

Therefore, B's 1 day work =  $\frac{1}{6}$ .

$$\begin{aligned} \Rightarrow (A+B)'s \text{ 1 day's work} &= \frac{1}{4} + \frac{1}{6} \\ &= \frac{(3+2)}{12} \\ &= \frac{5}{12} \end{aligned}$$

Hence, A and B together will complete the work in  $\frac{12}{5}$  days.

**QUESTIONS :**

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**Solve the following sums :**

**Q9. A can do a piece of work in 6 days and B can do it in 8 days . How long will they take to complete it together ?**

**Q10. A can do a piece of work in 4 days and B can do the same work in 5 days. Find, how much work can be done by them working together in one day.**

**Q11. A,B and C can do a piece of work in 12,15 and 20 days respectively. How long will they take to do it working together?**

**Q12. Shaheed can prepare one wooden chair in 3 days and Shaif can prepare the same chair in 4 days. If they work together, in how many days will they prepare :**

(i) One chair ?

(ii) 14 chairs of the same kind ?

**Example 4: Ajay and Vijay together can paint a hall in 6 days. Ajay alone can paint it in 8 days. In how many days can Vijay alone paint it ?**

**Solution:** Given, Ajay and Vijay together paint a hall in 6 days

Therefore, Ajay and Vijay in 1 day can paint  $\frac{1}{6}$  of the hall.

Since, Ajay alone can paint the hall in 8 days.

Therefore, Ajay alone in 1 day can paint  $\frac{1}{8}$  of the hall.

⇒ Vijay alone in 1 day can paint

$=\frac{1}{6} - \frac{1}{8}$  of the hall

$=\frac{(4-3)}{24}$

$= \frac{1}{24}$  of the hall

Therefore, Vijay alone can paint the hall in 24 days.

#### **QUESTIONS :**

**Solve the following sums :**

**Q13. A & B together can do a piece of work in 35 days, while A alone can do it 60 days. How long would B alone take to do it ?**

**Q14. A & B together can do a piece of work in 10 days. B alone can do the same work in 15 days. How long will A alone take to do the same work ?**

**Q15. A,B and C together finish a work in 4 days. If A alone can finish the same work in 8 days and B in 12 days, find how long will C take to finish the work.**

**Q16. A and B together can do a piece of work in 15 days, while B alone can finish it 20 days. In how many days can A alone finish the work ?** (Page 3/5)

**Example 5: A and B can do a piece of work in 15 days and 20 days respectively. Find:**

(i) The work done by A in 3 days .

(ii) The work left after A has worked for 3 days.

(iii) The number of days that B will take to complete the remaining work.

**Solution : (i)** A's 1 day work =  $1/15$

Therefore, work done by A in 3 days =  $1/15 \times 3 = 1/5$ .

(ii) Work left after A has worked for 3 days =  $1 - 1/5 = 4/5$

(iii) Remaining work =  $4/5$  and B's 1 day work =  $1/20$

Therefore, number of days taken by B to complete the remaining work.

= Work to be done / B's 1 day work

=  $(4/5)/(1/20)$

=  $4/5 \times 20/1$

= 16 days (Answer)

### **QUESTIONS :**

#### **Solve the following sums :**

**Q17. A and B take 6 hours and 9 hours respectively to complete a work. A works for 1 hour and then B works for two hours.**

- (i) How much work is done in these 3 hours ?
- (ii) How much work is still left ?

**Q18. Mohit can complete a work in 50 days, whereas Anuj can complete the same work in 40 days. Find:**

- (i) Work done by Mohit in 20 days.
- (ii) Work left after Mohit has worked on it for 20 days .
- (iii) Time taken by Anuj to complete the remaining work.

**Q19. Joseph and Peter can complete a work in 20 hours and 25 hours respectively. Find:**

- (i) Work done by both together in 4 hrs.
- (ii) Work left after both worked together for 4 hrs.
- (iii) Time taken by Peter to complete the remaining work. (Page 4/5)

**Q20. A is able to complete  $1/3$  of a certain work in 10 hrs and B is able to complete  $2/5$  of the same work in 12hrs. Find:**

- (i) How much work can A do in 1 hour ?
- (ii) How much work can B do in 1 hour ?

(iii) In how much time will the work be completed, if both work together ?

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END