EduSahara™ Assignment

Name : Pipe Problems

Chapter : Direct and Inverse Proportions

Grade : SSC Grade VIII

1. Pipe A can fill a tank in $7\,\text{hr}$ and pipe B can empty the full tank in $49\,\text{hr}$. If both the pipes are opened together, in how much time will the tank become full?

   (i) $7\frac{5}{6}\,\text{hr}$ (ii) $8\frac{1}{6}\,\text{hr}$ (iii) $8\frac{1}{4}\,\text{hr}$ (iv) $8\frac{1}{2}\,\text{hr}$ (v) $8\frac{1}{8}\,\text{hr}$

2. Two pipes can fill a tank in $10\,\text{min}$ and $25\,\text{min}$ respectively. Both pipes are opened together and after some time the first pipe is closed and the tank becomes full in $22\frac{1}{2}\,\text{min}$ from the time when both pipes are opened. For how much time was first pipe open?

   (i) $-1\,\text{min}$ (ii) $3\,\text{min}$ (iii) $0\,\text{min}$ (iv) $1\,\text{min}$ (v) $2\,\text{min}$

3. Due to a leak at the bottom, pipe Y takes $10\,\text{hr}$ to fill the tank. The leak alone can empty the full tank in $40\,\text{hr}$. In what time can pipe Y alone fill the tank when the leak is closed?

   (i) $10\,\text{hr}$ (ii) $9\,\text{hr}$ (iii) $5\,\text{hr}$ (iv) $7\,\text{hr}$ (v) $8\,\text{hr}$

4. Pipe A can fill a tank in $3\,\text{hr}$ and pipe B can empty the full tank in $15\,\text{hr}$. If both the pipes are opened together, in how much time will the tank become full?

   (i) $4\frac{1}{4}\,\text{hr}$ (ii) $4\frac{1}{2}\,\text{hr}$ (iii) $3\frac{1}{2}\,\text{hr}$ (iv) $3\frac{1}{4}\,\text{hr}$ (v) $3\frac{3}{4}\,\text{hr}$

5. Two pipes can fill a tank in $12\,\text{min}$ and $21\,\text{min}$ respectively. Both pipes are opened together and after some time the first pipe is closed and the tank becomes full in $15\frac{3}{4}\,\text{min}$ from the time when both pipes are opened. For how much time was first pipe open?

   (i) $6\,\text{min}$ (ii) $4\,\text{min}$ (iii) $3\,\text{min}$ (iv) $2\,\text{min}$ (v) $1\,\text{min}$

6. Due to a leak at the bottom, pipe Y takes $9\,\text{hr}$ to fill the tank. The leak alone can empty the full tank in $18\,\text{hr}$. In what time can pipe Y alone fill the tank when the leak is closed?

   (i) $9\,\text{hr}$ (ii) $5\,\text{hr}$ (iii) $6\,\text{hr}$ (iv) $3\,\text{hr}$ (v) $7\,\text{hr}$

7. Pipe A can fill a tank in $4\,\text{hr}$ and pipe B can empty the full tank in $12\,\text{hr}$. If both the pipes are opened together, in how much time will the tank become full?

   (i) $6\,\text{hr}$ (ii) $9\,\text{hr}$ (iii) $3\,\text{hr}$ (iv) $7\,\text{hr}$ (v) $5\,\text{hr}$

8. Two pipes can fill a tank in $15\,\text{min}$ and $26\,\text{min}$ respectively. Both pipes are opened together and after some time the first pipe is closed and the tank becomes full in $12\frac{2}{15}\,\text{min}$ from the time when both pipes are opened. For how much time was first pipe open?

(i) $6\,\text{min}$ (ii) $7\,\text{min}$ (iii) $10\,\text{min}$ (iv) $8\,\text{min}$ (v) $9\,\text{min}$

9. Due to a leak at the bottom, pipe Y takes $7\frac{1}{2}\,\text{hr}$ to fill the tank. The leak alone can empty the full tank in $15\,\text{hr}$. In what time can pipe Y alone fill the tank when the leak is closed?

(i) $5\,\text{hr}$ (ii) $7\,\text{hr}$ (iii) $4\,\text{hr}$ (iv) $6\,\text{hr}$ (v) $2\,\text{hr}$

10. Pipe A can fill a tank in $9\,\text{hr}$ and pipe B can empty the full tank in $36\,\text{hr}$. If both the pipes are opened together, in how much time will the tank become full?

(i) $12\,\text{hr}$ (ii) $11\,\text{hr}$ (iii) $14\,\text{hr}$ (iv) $9\,\text{hr}$ (v) $13\,\text{hr}$

Assignment Key

1) (ii)	2) (iv)	3) (v)	4) (v)	5) (iii)	6) (iii)
7) (i)	8) (iv)	9) (i)	10) (i)		