EduSahara™ Assignment

Name : Pipe Problems

Chapter : Direct and Inverse Proportions

Grade : SSC Grade VIII

1. Pipe A can fill a tank in $4\,\text{hr}$ and pipe B can empty the full tank in $24\,\text{hr}$. If both the pipes are opened together, in how much time will the tank become full?

   (i) $5\frac{1}{3}\,\text{hr}$ (ii) $4\frac{2}{5}\,\text{hr}$ (iii) $4\frac{4}{5}\,\text{hr}$ (iv) $5\frac{1}{5}\,\text{hr}$ (v) $4\frac{4}{7}\,\text{hr}$

2. Two pipes can fill a tank in $10\,\text{min}$ and $15\,\text{min}$ respectively. Both pipes are opened together and after some time the first pipe is closed and the tank becomes full in $13\frac{1}{2}\,\text{min}$ from the time when both pipes are opened. For how much time was first pipe open?

   (i) $4\,\text{min}$ (ii) $2\,\text{min}$ (iii) $0\,\text{min}$ (iv) $1\,\text{min}$ (v) $-1\,\text{min}$

3. Due to a leak at the bottom, pipe Y takes $6\,\text{hr}$ to fill the tank. The leak alone can empty the full tank in $12\,\text{hr}$. In what time can pipe Y alone fill the tank when the leak is closed?

   (i) $5\,\text{hr}$ (ii) $2\,\text{hr}$ (iii) $4\,\text{hr}$ (iv) $3\,\text{hr}$ (v) $6\,\text{hr}$

4. Pipe A can fill a tank in $8\,\text{hr}$ and pipe B can empty the full tank in $40\,\text{hr}$. If both the pipes are opened together, in how much time will the tank become full?

   (i) $9\,\text{hr}$ (ii) $12\,\text{hr}$ (iii) $10\,\text{hr}$ (iv) $11\,\text{hr}$ (v) $8\,\text{hr}$

5. Two pipes can fill a tank in $15\,\text{min}$ and $22\,\text{min}$ respectively. Both pipes are opened together and after some time the first pipe is closed and the tank becomes full in $16\frac{2}{15}\,\text{min}$ from the time when both pipes are opened. For how much time was first pipe open?

   (i) $5\,\text{min}$ (ii) $2\,\text{min}$ (iii) $3\,\text{min}$ (iv) $4\,\text{min}$ (v) $7\,\text{min}$

6. Due to a leak at the bottom, pipe Y takes $8\,\text{hr}$ to fill the tank. The leak alone can empty the full tank in $24\,\text{hr}$. In what time can pipe Y alone fill the tank when the leak is closed?

   (i) $8\,\text{hr}$ (ii) $5\,\text{hr}$ (iii) $7\,\text{hr}$ (iv) $6\,\text{hr}$ (v) $3\,\text{hr}$

7. Pipe A can fill a tank in $6\,\text{hr}$ 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) $7\frac{1}{3}\,\text{hr}$ (ii) $7\frac{1}{7}\,\text{hr}$ (iii) $6\frac{4}{5}\,\text{hr}$ (iv) $7\frac{3}{5}\,\text{hr}$ (v) $7\frac{1}{5}\,\text{hr}$

8. Two pipes can fill a tank in $9\,\text{min}$ and $15\,\text{min}$ respectively. Both pipes are opened together and after some time the first pipe is closed and the tank becomes full in $8\frac{1}{3}\,\text{min}$ from the time when both pipes are opened. For how much time was first pipe open?

(i) $4\,\text{min}$ (ii) $5\,\text{min}$ (iii) $2\,\text{min}$ (iv) $6\,\text{min}$ (v) $3\,\text{min}$

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9. Due to a leak at the bottom, pipe Y takes $10\frac{2}{3}\,\text{hr}$ to fill the tank. The leak alone can empty the full tank in $32\,\text{hr}$. In what time can pipe Y alone fill the tank when the leak is closed?

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

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10. Pipe A can fill a tank in $5\,\text{hr}$ and pipe B can empty the full tank in $30\,\text{hr}$. If both the pipes are opened together, in how much time will the tank become full?

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

Assignment Key

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