





*Miscellaneous Exercise on Chapter 5*

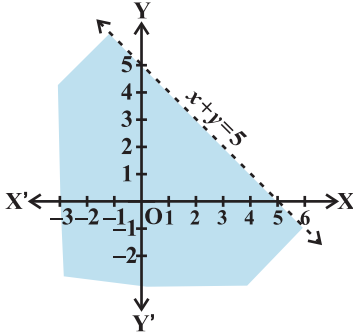
1.  $2 - 2i$       3.  $\frac{307+599i}{442}$
5. (i)  $\sqrt{2}\left(\cos\frac{3\pi}{4} + i\sin\frac{3\pi}{4}\right)$ , (ii)  $\sqrt{2}\left(\cos\frac{3\pi}{4} + i\sin\frac{3\pi}{4}\right)$
6.  $\frac{2}{3} \pm \frac{4}{3}i$       7.  $1 \pm \frac{\sqrt{2}}{2}i$       8.  $\frac{5}{27} \pm \frac{\sqrt{2}}{27}i$       9.  $\frac{2}{3} \pm \frac{\sqrt{14}}{21}i$
10.  $\sqrt{2}$       12. (i)  $\frac{-2}{5}$ , (ii) 0      13.  $\frac{1}{\sqrt{2}}, \frac{3\pi}{4}$       14.  $x = 3, y = -3$
15. 2      17. 1      18. 0      20. 4

**EXERCISE 6.1**

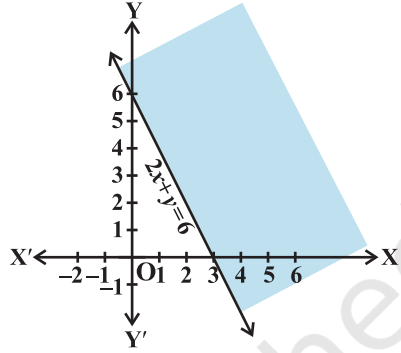
1. (i)  $\{1, 2, 3, 4\}$       (ii)  $\{\dots - 3, -2, -1, 0, 1, 2, 3, 4, \dots\}$
2. (i) No Solution      (ii)  $\{\dots - 4, -3\}$
3. (i)  $\{\dots - 2, -1, 0, 1\}$       (ii)  $(-\infty, 2)$
4. (i)  $\{-1, 0, 1, 2, 3, \dots\}$       (ii)  $(-2, \infty)$
5.  $(-4, \infty)$       6.  $(-\infty, -3)$       7.  $(-\infty, -3]$       8.  $(-\infty, 4]$
9.  $(-\infty, 6)$       10.  $(-\infty, -6)$       11.  $(-\infty, 2]$       12.  $(-\infty, 120]$
13.  $(4, \infty)$       14.  $(-\infty, 2]$       15.  $(4, \infty)$       16.  $(-\infty, 2]$
17.  $(-\infty, 3)$ ,       18.  $[-1, \infty)$ , 
19.  $(-1, \infty)$ ,       20.  $\left[-\frac{2}{7}, \infty\right)$ , 
21. 35      22. 82
23.  $(5, 7), (7, 9)$       24.  $(6, 8), (8, 10), (10, 12)$
25. 9 cm      26. Greater than or equal to 8cm but less than or equal to 22cm

## EXERCISE 6.2

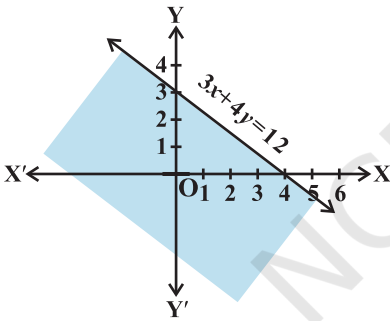
1.



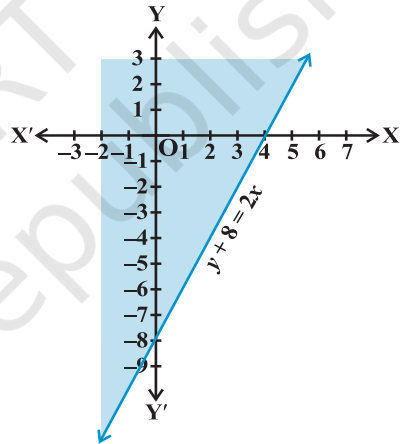
2.



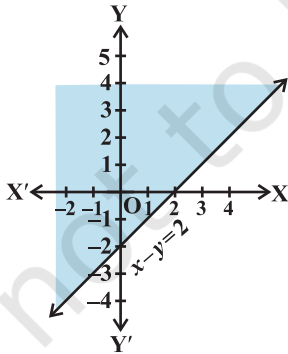
3.



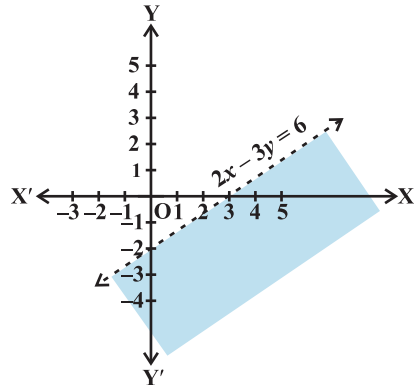
4.

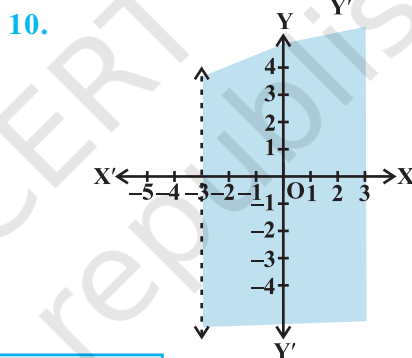
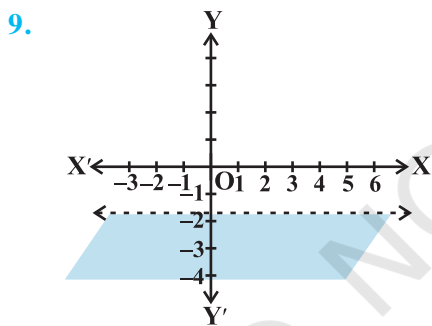
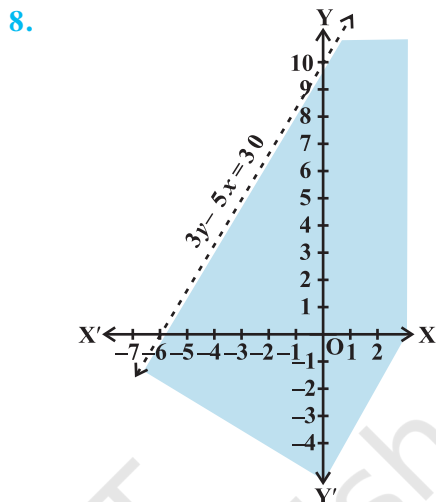
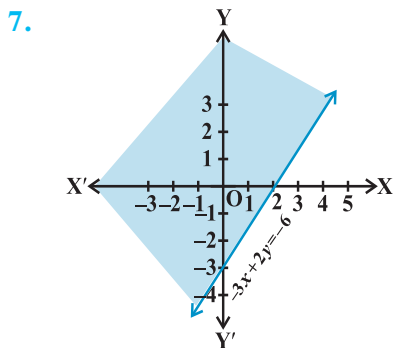


5.

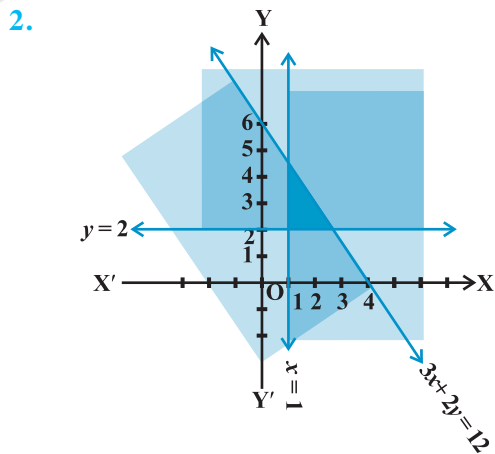
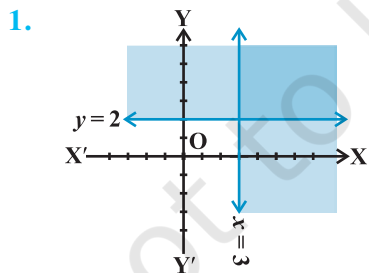


6.

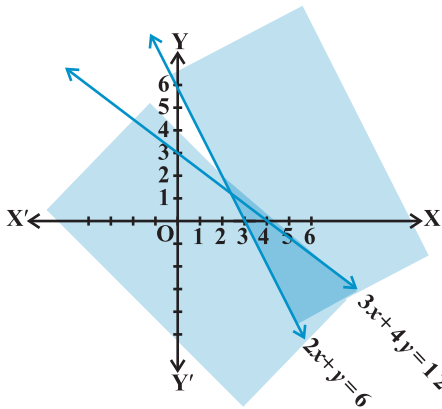




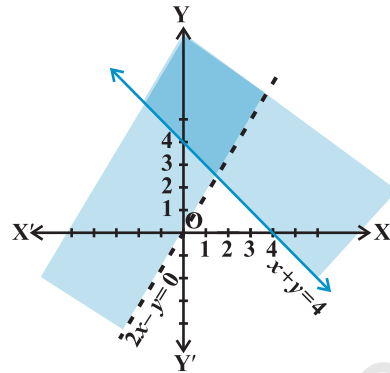
**EXERCISE 6.3**



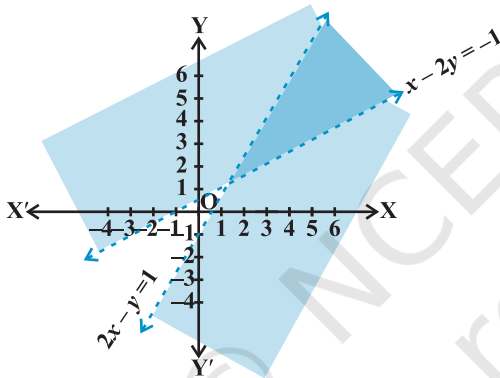
3.



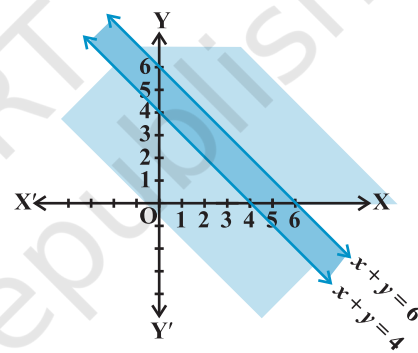
4.



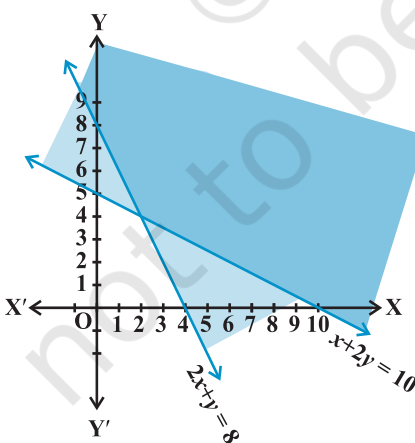
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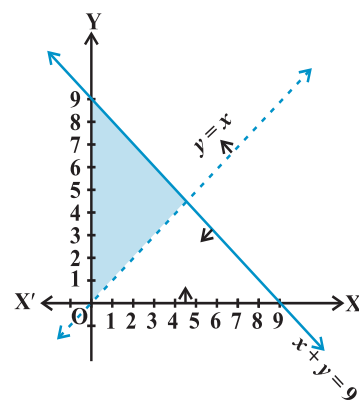
6.



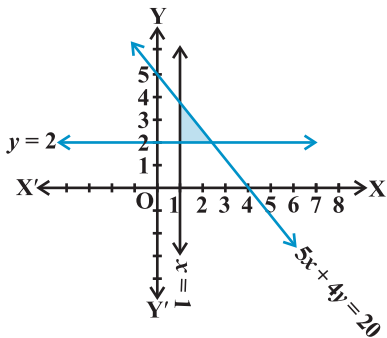
7.



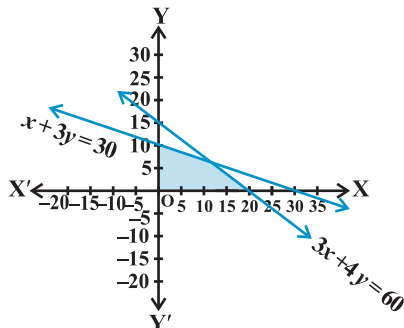
8.



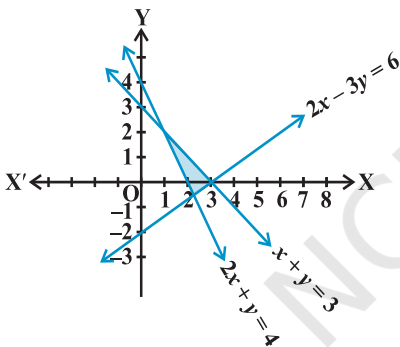
9.



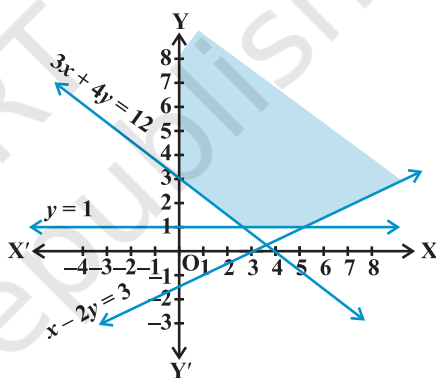
10.



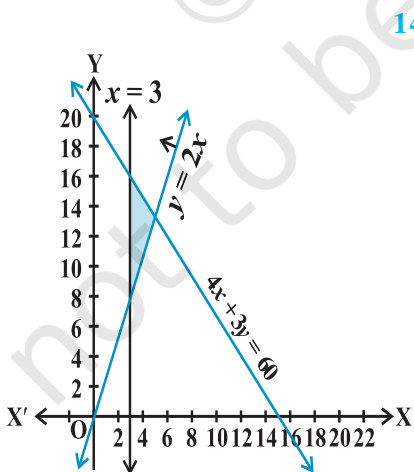
11.



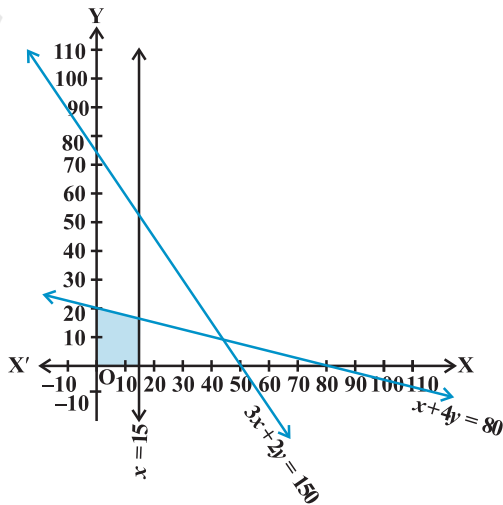
12.



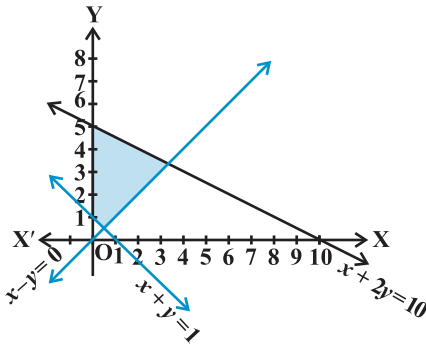
13.



14.



15.



### Miscellaneous Exercise on Chapter 6

1.  $[2, 3]$

2.  $(0, 1]$

3.  $[-4, 2]$

4.  $(-23, 2]$

5.  $\left[ \frac{-80}{3}, \frac{-10}{3} \right]$

6.  $\left[ 1, \frac{11}{3} \right]$

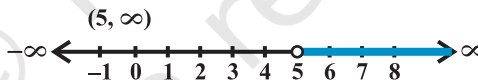
7.  $(-5, 5)$



8.  $(-1, 7)$



9.  $(5, \infty)$



10.  $[-7, 11]$



11. Between  $20^\circ\text{C}$  and  $25^\circ\text{C}$

12. More than 320 litres but less than 1280 litres.

13. More than 562.5 litres but less than 900 litres.

14.  $9.6 \leq MA \leq 16.8$

### EXERCISE 7.1

1. (i) 125, (ii) 60.

2. 108

3. 5040

4. 336

5. 8

6. 20