Half yearly exam Std: 10
Answer key

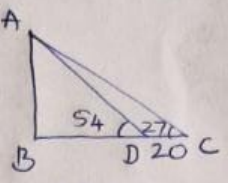
1. a) $\angle A = 45^\circ$
   b) $AC = 3\sqrt{2}$
2. a) 4 ~~cm~~
   b) 1/4
3. b, c
4. $n^2 = 625$
   $\therefore n = 25$

2 Marks

5. a) 4
   b) 3/5 (BC = 3)
6. a) (7,8) (3,5)
   b) (3,8), (7,5)
7. 

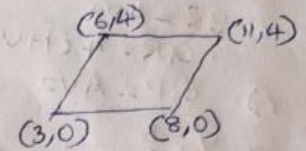
3 marks

8. a) 10 cm
   b) $\sqrt{13^2 - 5^2} = 12$ cm
9. $4\pi r^2 = 40$
   $\therefore \pi r^2 = 10\ cm^2$
   a) $10\ cm^2$
   b) $3\pi r^2 = 30\ cm^2$
   c) 3:4
10. a) $5 + 4 = 9$ cm
    b) $PQ \times PR = PB \times PC$
    $= 4 \times 9 = 36$
    c) $\therefore PA = \sqrt{36} = 6$ cm
11. a) $\frac{1}{3} \pi \times 9^2 \times 12$
    $= 324\pi$
    b) $\frac{324\pi}{\frac{4}{3}\pi \times 1^3} = 324 \times \frac{3}{4}$
    $= 81 \times 3$
    $= 243$ //

12. 

$AD = DC = 20$
$\therefore \sin 54 = \frac{AB}{20}$
$\therefore AB = 20 \times .8$
$= 16$ m

13. a) 28, 24, 20 ..
    b) $28 - 7 \times 4 = 0$
    c) $15 \times t_8 = 0$
    d) 0
14. a) 90°
    b) $\tan 35 = \frac{OS}{OP}$
    $\therefore OP = \frac{6}{.70} = 8.57$
    c) $A = 12 \times 17.14$
    $= 111.41$
15. a) 100
    b) $(25+x)(25-x) = 525$
    $625 - x^2 = 525$
    $\therefore x^2 = 100$
    $\therefore x = 10, -10$
    $\therefore$ 35, 15
16. ചിത്രം
17. a) $a\pi r = 2 \times \pi \times 30$
    $= 60\pi$
    b) $l = 50$
    $\therefore A = \pi \times 30 \times 50$
    $= 1500\pi$
18. a) 3 cm
    b) $6/\sqrt{3}$
    c) $6 \times 2 = 12$ cm

19. 

a) 5, 5
b) സമചതുരാകൃതിയിലാണ് (Rhombus)

20. a) $\left(\frac{a}{2}\right)^2$
    b) $e = \sqrt{l^2 + (a/2)^2}$
    $h = \sqrt{l^2 - \left(\frac{a}{2}\right)^2}$
    c) h^2, l^2, e^2
    15, l^2, 19
    $\therefore l^2 = 17$
    $\therefore l = \sqrt{17}$

4 marks

21. a) $\angle BPC = 40^\circ$
    b) $\angle APC = 90 + 40 = 130^\circ$
    c) $\angle C = 20^\circ$
    d) If $\angle A = x^\circ$
    $\angle BPC = x^\circ$
    $\angle APC = 90 + x^\circ$
    $\therefore \angle C = 180 - (x + 90 + x)$
    $= 90 - 2x$

22. a) 36 cm
    b) 120:240
    1:2
    c) $\frac{x}{360} = \frac{r_1}{36}$
    $\therefore \frac{120}{360} = \frac{r_1}{36}$
    $\therefore r_1 = 12$ cm
    $\frac{240}{360} = \frac{r_2}{36}$
    $\therefore r_2 = 24$ cm
    $\therefore r_1 : r_2 = 12:24$
    $= 1:2$

5 Marks

23. a) 70°
    b) ചിത്രം
24. a) $\frac{10 \times 11}{2} = 55$
    b) $n(n+1) = 462$
    $\therefore n = 21$

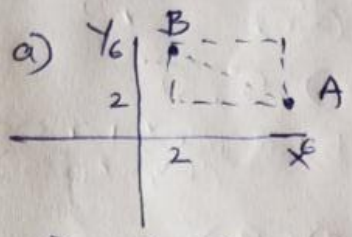
25. a) 4 cm

b) $QS = 4$ cm

$SR = 4\sqrt{3}$

$\therefore QR = 4(1+\sqrt{3})$

c) $QP = 4\sqrt{2}$

26. a) 

5 Marks

b) circle

c) (2,2) (6,6)

27. a) $\sqrt{8^2+6^2} = 10$ cm

b) $\frac{1}{2} \times 8 \times 6 = 24$ cm

c) $r = \frac{A}{S} = \frac{24}{12} = 2$ cm

28. a) 2 cm

b) $\sqrt{3}$ cm

c) circle.

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29. a) 0

b) 90°

c) 1

d) 1

e) 45°

f) 1

6 Marks