

Date _____

NTSE Maths Solution.

1) option D

$$\frac{3}{5} = 0.6$$

2) at $x = -1$

$$P(x) = 5x - 4x^2 + 3$$

To find remainder at $x = -1$

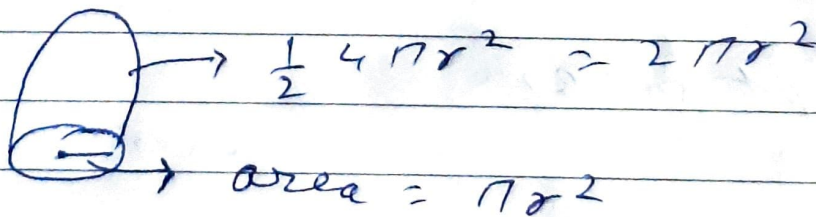
$$P(-1) = 5 \times (-1) - 4 \times (-1)^2 + 3$$

$$= -6$$

option (B)

3) Pythagoras gives pythagoras theorem

4) Hemisphere



$$\text{Total area} = 2\pi r^2 + \pi r^2$$

$$\text{option (A)} = 3\pi r^2$$

Date _____

5 Perimeter = 32

~~a~~ a = 8

b = 11

c = 32 - (8 + 11) = 13

In this type of ques first check for Pythagoras

Here it is not satisfying

so, we'll go for Heron's formula:

s = $\frac{a+b+c}{2}$ = 16

A = $\sqrt{s(s-a)(s-b)(s-c)}$

= $\sqrt{16 \times 8 \times 5 \times 3}$

= $8\sqrt{30}$ cm²

option (B)

Date _____

6. We know for two numbers

H.C.F \times L.C.M = multiplication of number

$$6 \times \text{L.C.M} = 306 \times 657$$

$$\text{L.C.M} = 33507$$

option - B

7. For cubic polynomial we know

$$ax^3 + bx^2 + cx + d$$

roots α, β, γ

$$\alpha + \beta + \gamma = -\frac{b}{a}$$

$$\alpha\beta + \beta\gamma + \gamma\alpha = \frac{c}{a}$$

$$\alpha\beta\gamma = -\frac{d}{a}$$

$$4 \times \frac{2}{x\gamma} = \frac{-8}{2}$$

$$\Rightarrow \gamma = \frac{1}{2}$$

option (A)

Date _____

8. For Quadratic

$$\alpha + \beta = 0$$

$$\alpha \beta = \sqrt{5}$$

$$P(x) = x^2 - (\alpha + \beta)x + \alpha\beta$$

$$= x^2 + \sqrt{5} = 0$$

option (D)

9. $0.2x + 0.3y = 1.3$

$$0.4x + 0.6y = 2.6$$

$$\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$$

Infinite solution

option C

10. $l + b = 36$ — (i)

$$l = b + 4$$

$$\Rightarrow l - b = 4$$
 — (ii)

Solving (i) and (ii) we get

$$l = 20$$
 option A

Date _____

11. $a = 21$ $d = -3$

$$T_n = a + (n-1)d$$

$$-81 = 21 + (n-1)(-3)$$

$$n-1 = \frac{102}{3}$$

$$n = 35$$

option B

12. $a = 7$ $d = \frac{7}{2}$

$$T_n = a + (n-1)d$$

$$84 = 7 + (n-1) \frac{7}{2}$$

$$n = 23$$

$$S_n = \frac{n}{2} (a_1 + a_n)$$

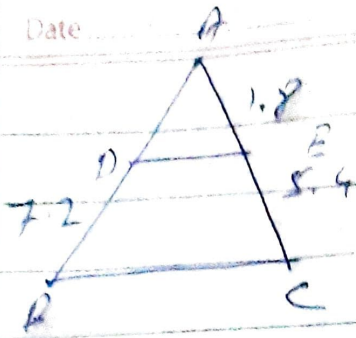
$$= \frac{23}{2} \wedge 91$$

$$= 1046 \frac{1}{2}$$

option A

Date

13.



$$\frac{AD}{DB} = \frac{AE}{EC}$$

$$\frac{7.2}{DB} = \frac{5.4 + 1.8}{5.4}$$

$$\frac{7.2}{DB} = \frac{4}{3}$$

$$DB = 9.6 \text{ cm}$$

14. let division ratio be $(m:1)$

$$x = \frac{-m+5}{m+1}$$

$$y = \frac{-4m-6}{m+1}$$

If it lies on y-axis
 $x=0$

Date _____

Saathi

$$-m + 5 = 0$$

$$m = 5$$

$$y = \frac{-20 - 6}{6} = \frac{-13}{3}$$

option A

15 let point be $(x, 0)$

from distance formula

$$\sqrt{(x-2)^2 + 25} = \sqrt{(x+2)^2 + 81}$$

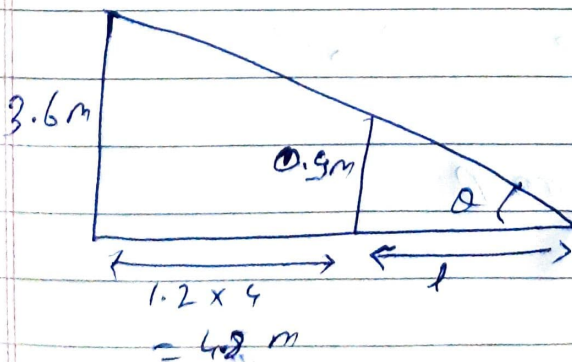
$$x^2 - 4x + 4 + 25 = x^2 + 4x + 4 + 81$$

$$8x = -56$$

$$x = -7 \quad \text{option A)$$

point is $(-7, 0)$

16. correction pole length is
4.2 m.



Date

Using

$$\text{mean} = \frac{1}{6} = \frac{0.9}{1} = \frac{3.6}{4.8 + 1}$$

$$4.8 + 1 = 4.8$$

$$2.1 = 4.8$$

$$1 = 1.6$$

Option C

17. Option B
range

18. Using formula

~~$$\text{mean} - \text{median} = ?$$~~

$$\text{mean} - \text{mode} = 3(\text{mean} - \text{median})$$

$$10.2 - \text{mode} = 3 \times (-5.3)$$

$$\text{mode} = 26.1$$

Option D

Date _____

Saathi

19. Indivisible means Prime

favourable no.s are 1, 3, 5

$$P = \frac{3}{6} = \frac{1}{2}$$

option A

20. $P(\bar{E}) = 0.95$

$$P(E) = 1 - P(\bar{E})$$
$$= 0.05$$