b) Volume of Circular Cone= $\frac{1}{3}(\pi r^2 h)=\frac{1}{3}\times\pi\times225\times20=1500\pi\,cm^3$ AD=15

Volume of the hemisphere= $\frac{2}{3}\pi r^3=\frac{2}{3}\pi\times12\times12\times12=1152\pi\,cm^3$

Volume of the remaining part of the cone= $(1500-1152)\pi\,cm^3=348\pi\,cm^3$

20. $p(x)=2x^3-3x^2-5x+6=q(x)(x-2)+r\,.'.\,p(x)=(ax^2+bx+c)(x-2)+r$ *where* $q(x)=ax^2+bx+c$

$$2x^3-3x^2-5x+6=(ax^2+bx+c)(x-2)+r$$

Equating Coefficients of like powers of x , then

$a=2,-2a+b=-3\;\;.'.b=-3+2a=-3+2\times2=4-3=1\;\;-2b+c=-5\;\;.'.c=-5+2b=-5+2=-3\;\;6=-2c+r$

$$r=6+2c=6\pm6=0$$

$2x^3-3x^2-5x+6=(2x^2+x-3)(x-2)=(x-1)(2x+3)(x-2)$

a)q(x)= $2x^2+x-3r=0$ b) $(x-1)(2x+3)$ c) $(x-1)(2x+3)(x-2)$

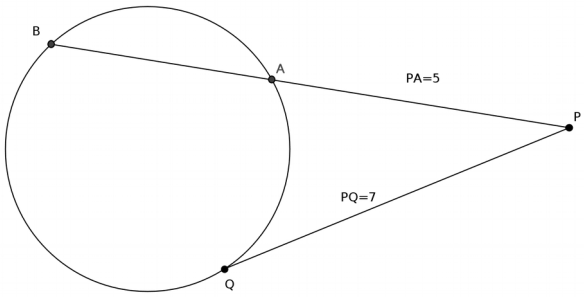
21.

$$PA\times PB=PQ^2\;\;.'.\;\;5\times PB=49$$

$$PB=\frac{49}{5}$$

$$AB=PB-PA=\frac{49}{5}-5=\frac{(49-25)}{5}=\frac{24}{5}=4.8\,cms$$

a) 4.8 cms



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In Circle
AC x CB = CD x CG
7 x 7 = 5 x CG

22.