ON LUMBER SURVEYING.

20. How many 3-inch cubes may be cut out of a 12-inch cube? Ans. 64.

21. How high above the earth must a person be raised that he may see one third of its surface?

Ans. To the height of the earth's diameter. 22. How many feet of boards would cover the surface of the earth, its diameter being 7,958 miles; and how many solid feet in it?

 $\mathcal{A}ns. \begin{cases} 5,546,407,680,000,000. \text{ No. of} \\ \text{feet of boards to cover it.} \\ 37,416,291,092,323,844,085,000. \\ \text{No. of cubic feet in the earth.} \end{cases}$

23. If the diameter of a circle be 50 feet, what is the eircumference of it?

24. Two pillars standing on a horizontal plane are 120 feet asunder; the height of the higher is 100 feet, and that of the lower 80; whereabout in the plane must a person place himself, so that his distance from the top of either of the pillars shall be equal to the distance between them?

Ans. 91.78 feet from the bottom of the lower.

69.92 feet from the bottom of the other.

25. Three ships are equally distant from an island, the first ship is 30 miles from the second, the second is 25 miles from the third, and the third is 20 miles from the first; required the distance to the isle?

Ans. 15.118579 miles from each. 26. Prove that the elevation of the North or Polar star above the horizon is equal to the latitude of the place where its altitude is taken.

27. I have a board in the form of a triangle; the length of one of its sides is 16 feet. I wish to sell one half of it; at what distance from the larger end must it be divided parallel to the larger end. Ans. 4.68 feet.

28. In 2,500 feet running lengths of 7 inches \times 9 inches, how many feet running lengths of $2\frac{1}{2}$ inches $\times 11$?

et long dimen-00 per\$75.60. is deit what

inches. , but a hick, is

inches. rn just 26 feet. ameter, olutions 1 4 feet 5 feet of the nearly. inches, shorter om the tely reot left;

6.086. off 킄 of

8.6716. ie solidie num-Ans. 6. 80 feet , al width walk to 68 feet.

71