

- 25.—In what rocks are the ores of Copper and Lead found?
- 26.—Describe the general position of the ores of Copper and Lead, and state what indications you would consider of a satisfactory character.
- 27.—Describe the treatment of the above named ores from their extraction in the mine to their marketable condition.

EXAMINATION PAPERS—JUNE 1871.

ENGINEERING.

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PAPER I.

- 1.—The circumference of the earth being 25,000 miles, what is its diameter assuming it a perfect sphere?
- 2.—Describe the way in which a survey is plotted by rectangular co-ordinates, giving in detail the calculations to be performed.
- 3.—The hypothenuse of a right angled triangle is 272 and the base 232, ascertain the length of the perpendicular by logarithmic computation.
- 4.—Describe the temporary and permanent adjustments of the Gravatt level.
- 5.—In running a line of levels state what errors are produced, and the method by which they can be neutralized when using the theodolite.
- 6.—Describe the various methods of finding a true meridian, and state which is the most accurate.
- 7.—What will be the distance from the apex to the commencement of a 3° curve, assuming the angle of intersection of two tangents to be 38° 45'?
- 8.—State the capacity, in gallons, of a tank 10½ feet diameter and 8½ feet deep.
- 9.—Describe a circle in a scalene triangle, and write down the solution.
- 10.—State the number of points into which the compass is divided in ordinary land surveying, and also in connection with nautical purposes.