## QUESTIONS FOR EXAMINATION.

10. Reckoning bank discount at 5 per cent. a person would receive \$21 less than the nominal value of a pote which has a year to run : what would he receive for the note if *true* discount were deducted \$

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## XVI.

1. Find the sum of the squares and the cubes of the numbers 1, 2, 3, 4, 5, 6.

2. A man is engaged to work at \$1 a day and his board, with the understanding that he is to pay  $37\frac{1}{2}$  cts a day for his board when idle : what must be the proportion of working time so that he may just keep out of debt, supposing that he works whole days and not parts in every case ?

Sol.—Wages,  $\$_5^8$ ; loss on idle days= $\$_5^{-1}$ , L. C.

Sol.—Amount= $\frac{2}{2}\frac{1}{6}$ ... interest= $\frac{1}{2}\frac{1}{6}$ ... principal=20 interest=£21.

4. Which is the more profitable, a cord of wood which costs \$4.75, and \$1.25 for cutting, etc., generating a temperature of  $72^{\circ}$  in my room for 24 days, ex a ton of coal which costs \$5, which would generate a temperature of  $70^{\circ}$  for 25 days, but for a loss of 80 lbs. per ton from dust and dross ?

Sol.—80 lbs per ton=4 per cent. = loss=1 day

in 25, leaves 24 days same as wood; 72° costs \$6 with wood ... 1° costs  $\frac{1}{12}$ ; with coal, 70° costs \$5, or 1° costs  $\frac{1}{14}$ ... coal better.

5. Sold a horse for \$246, and lost 18 per cent. of

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