

IN THE HIGH SCHOOL ARITHMETIC

17. Divide 1 by 3.14159 by contracted method.

18. Assuming $\frac{511}{1000}$ as the value of the fraction, its denominator must be $\frac{1000}{511}$ of its numerator, or $\frac{1000}{511}$ of 209 = &c.

19. See Arith., pp. 49-51.

20. A cubic foot of water will make $\frac{1}{8}$ cub. ft. of ice.
 $\therefore \frac{1}{8}$ cub. ft. of ice weigh 1000 oz., &c.

21. In 45 hours 15 ac. are mown by 4 men, $\therefore$ in 22 hr. 11 ac. are mown by $(4 \times \frac{1}{2} \times \frac{22}{45})$ men = 6 men.

22. A bought $\frac{3}{4}$ of it, B $\frac{1}{4}$, or $\frac{1}{2}$ of it. $\therefore$ A and B bought $\frac{1}{2}$ of it. $\therefore$ he received \$50 for $\frac{1}{2}$ of $\frac{1}{2}$ of the land.
 $\therefore$ the value of the land was \$6000.

23. Suppose D gets \$1.00, then A gets \$.30, then C gets \$.09, then B gets \$.39, and the whole sum divided would be \$1.78. But \$12.46 = 7 times \$1.78, &c.

24. Reduce to decimals and find $\frac{1}{2}$ of their sum.

25. 12 men do $\frac{4}{5}$ of the work in 160 hours, or the whole work in 200 hours. $\therefore$ 15 men would do it in 160 hours, or $\frac{4}{5}$ of it in 140 hours, or 14 days.

26. He loses $\$10500 \times \frac{1}{5} \times \frac{65}{100} = \1365 .

27. Suppose the cask holds 6 gal. The value of the mixture will be $90c. \times .5 + 50c. = \5.00 , or $83\frac{1}{3}c.$ per gal.

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28. B's cost = $\frac{2}{3}$ of \$306 = \$360, $\therefore$ A's cost = $\frac{1}{3}$ of \$360 = \$320.

29. When B runs 200 yd. C runs 190 yd. $\therefore$ when B runs 190 yd. C runs $\frac{190}{200}$ of 190 yd. = $180\frac{1}{2}$ yd. $\therefore$ when A runs 200 yd. C runs $180\frac{1}{2}$ yd., and $\therefore$ A wins by $19\frac{1}{2}$ yd.

30. Whole selling price of 535 lb. = \$52.10 + \$6.75.

31. The usual rate is $21\frac{1}{2}$ ml. per hr., the increased rate is $23\frac{7}{11}$ ml. per hr. The increase is $1\frac{3}{11}$ ml., which is $\frac{1}{11}$ of the usual rate.