

Teacher Key: Calculate With the Units in View

Use and look-fors. Grade 6 builds fluency while retaining explanation, estimation, and units. A numerical product is not a length or area unless the factors' units support that interpretation.

1. 4.18; $3.70 + 0.48$ combines ones, tenths, and hundredths in matching places.
2. 0.24; six tenths times four tenths gives twenty-four hundredths.
3. Scale both by 10: $54 \div 9 = 6$. Scaling only the dividend changes the quotient.
4. 4.35. One valid renaming is 6 ones, 11 tenths, 10 hundredths for 7.20. Then subtract 2 ones, 8 tenths, 5 hundredths.
5. 12 pieces; $0.35 \times 12 = 4.2$ meters.
6. 2.88 dollars; less than 3.60 because 0.8 meter is less than a meter.

Think Like a Mathematician

Extension solutions and teaching notes

7. Multiplication by the same positive factor preserves order. Greatest number 7.42 gives 3.71; least number 2.47 gives 1.235. Choose the largest or smallest ones digit first, then order the remaining decimal places.

8. New quotient = 8. For example $4 \div 5 = 0.8$ becomes $400 \div 50 = 8$. In general, $(100a)/(10b) = 10(a/b)$ for $b \neq 0$. The unequal scale factors make the quotient ten times as large.