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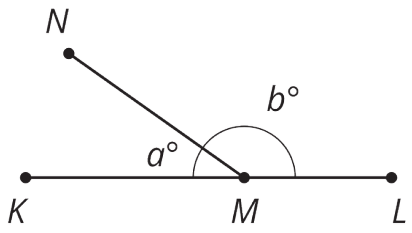
Unit 7, Lesson 4

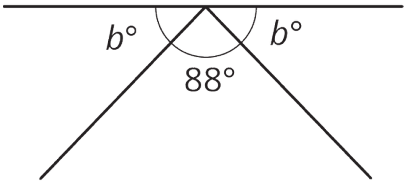
Practice Problems

1. M is a point on line segment KL. NM is a line segment. Select **all** the equations that represent the relationship between the measures of the angles in the figure.



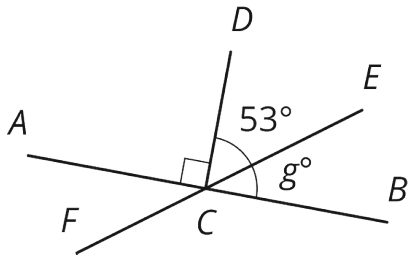
A. $a = b$
B. $a + b = 90$
C. $b = 90 - a$
D. $a + b = 180$
E. $180 - a = b$
F. $180 = b - a$

2. Which equation represents the relationship between the angles in the figure?



A. $88 + b = 90$
B. $88 + b = 180$
C. $2b + 88 = 90$
D. $2b + 88 = 180$

3. Segments AB, EF, and CD intersect at point C, and angle ACD is a right angle. Find the value of g.



4. Select **all** the expressions that are the result of decreasing x by 80%.

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A. $\frac{20}{100}x$

B. $x - \frac{80}{100}x$

C. $\frac{100-20}{100}x$

D. $0.80x$

E. $(1 - 0.8)x$

5. Andre is solving the equation $4(x + \frac{3}{2}) = 7$. He says, "I can subtract $\frac{3}{2}$ from each side to get $4x = \frac{11}{2}$ and then divide by 4 to get $x = \frac{11}{8}$." Kiran says, "I think you made a mistake."

   a. How can Kiran know for sure that Andre's solution is incorrect?

   b. Describe Andre's error and explain how to correct his work.

6. Solve each equation.

   a. $\frac{1}{7}x + \frac{3}{4} = \frac{9}{8}$

   b. $\frac{2}{3} + \frac{1}{5}x = \frac{5}{6}$

   c. $\frac{3}{2} = \frac{4}{3}x + \frac{2}{3}$

   d. $0.3x + 7.9 = 9.1$

   e. $11.03 = 8.78 + 0.02x$

7. A train travels at a constant speed for a long distance. Write the two constants of proportionality for the relationship between distance traveled and elapsed time. Explain what each of them means.

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time elapsed (hr)	distance (mi)
1.2	54
3	135
4	180