

Section 1.1 Practice Master

1. Translate each phrase into an algebraic expression.
 - a) six more than three times a number
 - b) five less than one third a value
 - c) a number increased by four, times another number
 - d) a value decreased by the fraction one quarter
2. Translate each phrase into an algebraic expression.
 - a) three times a length
 - b) fifteen percent of an area
 - c) half a distance
 - d) eleven percent of a mass
3. Translate each sentence into an algebraic equation.
 - a) Three times a value, decreased by four, is two.
 - b) One third a number, increased by two, is one.
 - c) One number is five times larger than two more than a second number.
 - d) The price of a meal, including fourteen percent tax, is ninety-five dollars and seventy-six cents.
4. Translate each sentence into an algebraic equation.
 - a) At a school concert, 355 tickets were sold. There were 51 more student tickets sold than adult tickets.
 - b) A rectangle has a perimeter of 172 cm. The length of the rectangle is 23 cm longer than twice the width.
 - c) The sum of two times the smaller of two consecutive numbers and three times the larger number is 113.
 - d) Enrico weighs 7 kg more than Julian. The sum of their masses is 183 kg.
5. Find the point of intersection for each pair of lines. Check your answers.

<ol style="list-style-type: none">a) $y = 3x + 10$ $y = 4x + 7$c) $y = x + 3$ $y = 1 - x$	<ol style="list-style-type: none">b) $y = x - 1$ $y = 9 - x$d) $y = 1 - 2x$ $y = x - 5$
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6. Find the point of intersection for each pair of lines. Check your answers.

<ol style="list-style-type: none">a) $x - y = 4$ $3x + y = 24$c) $x + y = 4$ $2x + 3y = 9$	<ol style="list-style-type: none">b) $3x - 3y = -3$ $2x + y = 4$d) $5x - 2y = 10$ $x + 2y = 2$
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7. **Use Technology** Use a graphing calculator or *The Geometer's Sketchpad*® to find the point of intersection for each pair of lines. Where necessary, round answers to the nearest hundredth.

<ol style="list-style-type: none">a) $2x + 5y = -20$ $5x - 3y = -15$c) $2x + 3y - 7 = 0$ $3x - 5y - 13 = 0$	<ol style="list-style-type: none">b) $3x + 2y = 3$ $2x + 10y = -5$d) $y = -0.5x - 1$ $y = 0.25x + 1$
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8. Charlene is looking into cell phone plans. Cell Plus gives unlimited minutes for \$50/month. A1 Cell offers a \$40 monthly fee, plus 5¢/min for any time over 300 min per month.
 - a) Write a linear equation to represent the charges for each company.
 - b) Graph the two equations to find the point of intersection.
 - c) What does the point of intersection represent?
 - d) Which plan should Charlene choose if she estimates that she will use her phone 10 h per month? 6 h per month?