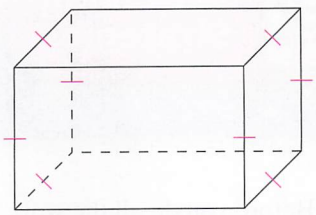
Extended Response

53. The volume of the square prism is $96x^3 + 48x^2 + 6x$. Find an expression that could describe the perimeter of one of the prism's square faces. Show your work.



Mixed Review

GO for Help

Lesson 9-7 **Factor each expression.**

54. $k^2 + 14k + 49$ **55.** $r^2 + 6r + 9$ **56.** $y^2 - 16y + 64$

57. $2t^2 + 12t + 18$ **58.** $m^2 - 64$ **59.** $4g^2 + 40g + 100$

60. $4d^2 - 25$ **61.** $5n^2 - 45$ **62.** $25q^2 + 40q + 16$

Lesson 8-4 **Simplify each expression.**

63. $(b^2)^2$ **64.** $x^4 \cdot x^{-2}$ **65.** $(t^3)^5$ **66.** $(c^5d)^7$

67. $(2y)^3$ **68.** $(9m)^0$ **69.** $(x^3)(x^7)^{-2}$ **70.** $(3w^2v^3)^4$

Simplify . Write each answer in scientific notation.

71. $(2 \times 10^5)^4$ **72.** $(3 \times 10^6)^2$ **73.** $(7 \times 10^{-6})^2$ **74.** $(2 \times 10^7)^5$

75. $(5.3 \times 10^2)^2$ **76.** $(8.1 \times 10^{-3})^2$ **77.** $(1.9 \times 10^8)^3$ **78.** $(4 \times 10^{-3})^{-2}$

Lesson 7-2 **Solve each system using substitution.**

79. $y = -7x + 12$
$y = 3x + 2$

80. $y = -3x + 4$
$y = -5x + 12$

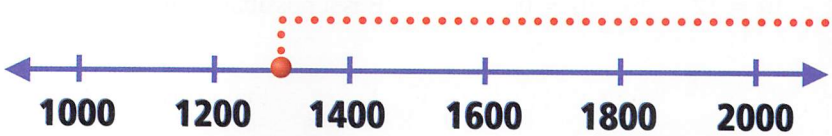
81. $10x + 2y = 15$
$y = -4x + 7$

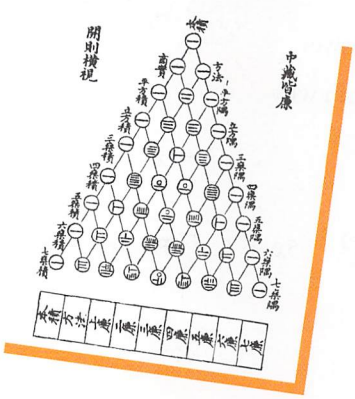
82. $x + y = -28$
$y = -2x - 26$

83. $8x + 2y = 50$
$y = -4x + 25$

84. $y = x - 5$
$11x - 6y = 65$

A Point in Time





Very little is known about the life of Chu Shih-Chieh, the Chinese mathematician and teacher who had many students during the last two decades of the 1200s. In 1303, Chu wrote *Ssu-yüan-yü-chien*, or *The Precious Mirror of Four Elements*. He described what is now known as Pascal's Triangle and explained how it could be used to solve polynomial equations. He also invented "the method of celestial element" to write and solve polynomial equations and linear systems with up to four variables.

Go Online PHSchool.com **For:** Information about Pascal's Triangle **Web Code:** ate-2032