

14. In both situations, the common factor must be a factor of all parts. In factoring a trinomial, the parts are the terms of the trinomial. In factoring a fraction, the parts are the numerator and denominator.
15. $-22, -10, 22$ and 10
16. No; the coefficient of the x -term must be the sum of products of factors of the leading coefficient and the constant term.
17. The student used the method for factoring $ax^2 + bx + c$ when $a = 1$ even though a is not equal to 1 . The correct factored form of $2x^2 + 11x + 15$ is $(2x + 5)(x + 3)$.
18. No; in this trinomial, $ac = -36$. The factors of -36 are: -1 and 36 , 1 and -36 , -2 and 18 , 2 and -18 , -3 and 12 , 3 and -12 , -4 and 9 , 4 and -9 , -6 and 6 . None of these pairs of factors sum to 7 , the value of b .
- 19.

x^2	x^2	x	x	x
x^2	x^2	x	x	x
x	x	1	1	1
x	x	1	1	1

x^2	x^2	x	x	x
x	x	1	1	1

x^2	x^2	x	x	x
x	x	1	1	1

20. $(px + n)(qx + m)$
21. $(x + 1)(2x + 5)$
22. $(3x + 1)(2x + 1)$
23. $4(x + 1)(x + 3)$

24. $2(x - 5)(x - 3)$

25. $3(x + 7)(x - 3)$

26. $6(x + 4)(x - 2)$

27. 2 and 7

28. -1 and 12

29. -4 and 2

30. 4 and 15

31. 5 and -21

32. 3 and 8

33. $(4x + 1)(x + 3)$

34. $(3x - 14)(2x + 1)$

35. $(2x - 1)(x + 4)$

36. $(4x + 3)(3x + 1)$

37. $3x(2x + 1)(x + 1)$

38. $(4x + 1)(2x - 3)$

39. $(6x + 5)(2x + 1)$

40. $4x(2x + 1)(2x + 3)$

41. $7(3x + 1)(x - 2)$

42. $(8x - 1)(2x + 3)$

43. $(9x + 1)(x + 5)$

44. $2x(3x - 2)(4x + 1)$

45. $(3x - 2y)(x + y)$

46. $(2x + 5y)(x + 2y)$

47. $(5x + y)(x - y)$

48. $(2x + 4y)(x + 3y)$

49. $(2x - 3)$ ft by $(x + 8)$ ft; $(2x - 1)$ ft by $(x + 10)$ ft; $(2x^2 + 19 - 10)$ ft²

50. $2x$ ft by $(2x + 1)$ ft by $(x + 2)$ ft; 6 ft by 7 ft by 5 ft; 432 ft³

51. a. $(2x + 8)$ in. by $(2x + 10)$ in.

b. 8 in. by 10 in.

c. The photographer may not know how wide she wants the frames of the photos to be, or she may vary the width of the frame for different photos.

52. $ac; b$

53. B

54. **Part A** $(6x + 9)$ in.

Part B 9 in.²

Part C 12 in.