



# Why Didn't the Piano Work?

Factor the expression. Find a factor in each of the two answer columns. One factor will have a letter and the other a number. Write the letter in the matching numbered box at the bottom of the page.

## Set 1

a.  $x^2 - 6x$

b.  $2x^2 + 8x$

c.  $45x^2 - 20x$

d.  $9x^3 + 30x$

e.  $8x^5 - 15x^3$

## Set 1 Answers

ii.  $x^3$     T.  $(3x^2 + 10)$

6.  $2x^2$     O.  $(x - 6)$

24.  $2x$     V.  $(8x^2 + 15x)$

2.  $3x$     S.  $(9x - 4)$

16.  $x$     F.  $(3x^2 - 4)$

14.  $x^2$     N.  $(8x^2 - 15)$

8.  $5x$     A.  $(x + 4)$

## Set 3

a.  $m^3n + 9m^2n$

b.  $10m^3n^2 - 25m^2n^3$

c.  $49m^5n^3 + 28mn^4$

d.  $72m^7n + 24n$

e.  $8m^3n^4 - 22m^5n^6$

## Set 3 Answers

10.  $5m^2n^2$     L.  $(4 - 11m^2n^2)$

7.  $24n$     P.  $(7m^4 + 4n)$

18.  $7mn^4$     S.  $(2m - 5mn^2)$

1.  $m^2n$     W.  $(3m^7 + 1)$

12.  $2m^3n^4$     I.  $(m + 9)$

22.  $7mn^3$     L.  $(4 - 11mn^3)$

5.  $8mn$     O.  $(2m - 5n)$

## Set 2

a.  $8a^3 + 4a^2 + 12a$

b.  $7a^4 - 35a^3 - 14a^2$

c.  $6a^8 + 10a^6 - 3a^4$

d.  $36a^3 - 24a^4 + 60a^5$

e.  $30a^6 - 75a^5 - 15a$

## Set 2 Answers

7.  $2a^2$     Y.  $(a^2 - 5a - 2)$

6.  $a^4$     P.  $(2a^5 - 5a^4 - 3)$

15.  $15a$     T.  $(3 - 2a + 5a^2)$

13.  $7a^2$     K.  $(2a^2 + a + 3)$

9.  $3a^2$     H.  $(2a^5 - 5a^4 - 1)$

4.  $4a$     O.  $(6a^4 + 10a^2 - 3)$

19.  $12a^3$     N.  $(3 - 2a - 5a^3)$

## Set 4

a.  $40x^2 - 100xy - 80y^2$

b.  $12x^5y^2 + 9x^4y^2 - 6x^3y^2$

c.  $15x^3y - 35x^2y^2 + 40xy^3$

d.  $144x^8y^2 + 27x^4y + 9x^2$

e.  $2\pi x^2 - \pi y^2$

## Set 4 Answers

17.  $5xy$     R.  $(4x^2 + 3x - 6y)$

21.  $3x^2y$     N.  $(16x^6y^2 + 3x^2y + 1)$

5.  $9x^2$     O.  $(2x^2 - 5xy - 4y^2)$

3.  $5x^2$     Y.  $(4x^2 + 3x - 2)$

25.  $3x^3y^2$     L.  $(2x^2 - y^2)$

23.  $\pi$     S.  $(3x^2 - 7xy - 4y^2)$

20.  $20$     W.  $(3x^2 - 7xy + 8y^2)$

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
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