

Life of Fred Placement Test
Advanced Algebra Expanded Edition

The prerequisite for starting Life of Fred: Advanced Algebra Expanded Edition is a good grounding in first year high school algebra (“Algebra 1”). Students who studied first year algebra using other curricula often find that there were a lot of topics that were left out. The Placement Test below will help you determine if you’re ready for Life of Fred: Advanced Algebra Expanded Edition.

1. What is the coefficient of $34.7abc$?

2. Army regulations require that their pickle relish use 10 pickles per pound of relish. In one giant bowl, the cooks have relish that only used 8 pickles per pound (too weak). In another bowl, they have relish that has 16 pickles per pound (too strong). They need to make 200 pounds of relish. How many pounds of each bowl should they use?

3. The point (a, b) is directly below $(4, 9)$. What can you say about a ? What can you say about b ?

4. The cooks at the army camp have four different dinner menus. In the next four days, how many ways could they serve them so every dinner will be different?

5. Solve $1 / (x - 1) + 1/2 = 2 / (x^2 - 1)$

6. Suppose there are two elements in the domain of some function and two elements in the range. How many possible functions could there be?

7. Solve $48 - 3x > 36$

Stop here! Answers are on the next page!

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Answers: Placement Test – Advanced Algebra Expanded Edition

1. 34.7
(Life of Fred: Beginning Algebra Expanded Edition, p. 68)
2. 150 pounds of the weak and 50 of the strong.
(Life of Fred: Beginning Algebra Expanded Edition, p. 170)
3. $a = 4$ and $b < 9$
(Life of Fred: Beginning Algebra Expanded Edition, p. 228)
4. $4!$ or 24
(Life of Fred: Beginning Algebra Expanded Edition, p. 273)
5. $x = -3$ is the only answer. (not $x = 1$)
(Life of Fred: Beginning Algebra Expanded Edition, p. 357)
6. There are two possible functions.
(Life of Fred: Beginning Algebra Expanded Edition, p. 492)
7. $x < 4$ (or $4 > x$)
(Life of Fred: Beginning Algebra Expanded Edition, p. 521)

Interpretation of Placement Test Results

If more than two of the seven problems in the Placement Test are answered incorrectly, you should start with Life of Fred: Beginning Algebra Expanded Edition, or take the Placement Test for Fractions, Decimals and Percents, and Pre-Algebra in order to determine where to begin.

If two or less are answered incorrectly, you should be ready for Life of Fred: Advanced Algebra Expanded Edition.

If you “aced” this test and are wondering whether you already know all of the material in Life of Fred: Advanced Algebra Expanded Edition, please take the Exit Test on the following page.

Life of Fred Placement Test
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Life of Fred: Advanced Algebra Expanded Edition, Exit Test

1. What is the slope of the line that is perpendicular to:
 $y = (7/3)x - 5$?

2. Using Cramer's Rule solve for x:
 $x + y = 1$
 $3x = 2y + 18$

3. What is the equation of the ellipse whose vertices are (4, 5) and (10, 5) and which has a semi-major axis of length 1?

4. Let A and B be any two arbitrary sets. Suppose we have a function $f: A \rightarrow B$ that is 1-1. What can we say about the number of elements in A compared with the number of elements in B?

5. Resolve $8 / (x^2 - 4)$ into partial fractions.

6. What is the sum of the infinite geometric progression:
 $1/3 + 1/9 + 1/27 + 1/81 + \dots$?

Stop here! Answers are on the next page!

Life of Fred Placement Test
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Answers: Exit Test – Advanced Algebra Expanded Edition

1. $-3/7$
(Life of Fred: Advanced Algebra Expanded Edition, p. 205)
2. $x = 4$ (Cramer's Rule involves the use of determinants. Do not count this as correct if determinants were not used.)
(Life of Fred: Advanced Algebra Expanded Edition, p. 282)
3. $(x - 7)^2 / 9 + (y - 5)^2 / 1 = 1$
(Life of Fred: Advanced Algebra Expanded Edition, p. 334)
4. The number of elements in A must be less than or equal to the number of elements in B.
(Life of Fred: Advanced Algebra Expanded Edition, p. 386)
5. $2 / (x - 2) - 2 / (x + 2)$
(Life of Fred: Advanced Algebra Expanded Edition, p. 415)
6. $1/2$
(Life of Fred: Advanced Algebra Expanded Edition, p. 487)

Interpretation of Exit Test Results

If your child can only get four out of six correct (66%), it would probably be a mistake to skip Life of Fred: Advanced Algebra Expanded Edition.