

Glendale Community College, AZ

Elementary Algebra Review for ASSET Placement Exam

This exam is intended as an overall review and includes problems similar to what you may expect on the ASSET exam. However, it is NOT a sample exam.

ASSET Exam Info

1. You have 25 minutes to complete the multiple choice exam.
2. The Numerical Skills exam has 32 questions. All other exams have 25 questions.
3. No calculator allowed on the Numerical Skills exam. On all other exams you may use a scientific calculator. No programmable or graphing calculators are allowed. Most problems on the exam do not require a calculator and can be solved quickly with paper and pencil.
4. Be sure you start off with the right exam! If you don't know what exam to take, start off with the Elementary Algebra Exam.
5. The most important factor in successfully completing the exam is *time*. Don't spend too much time on one question. If you get stuck, move on, and then come back to it.

This review was created by the GCC ASSET Exam Committee: Walter A. Kehowski (Chair), Jason Bright, Anne Dudley, Miriam Pack. Please send any comments to

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1. Find the value of $|-11|$.

- (a) 0 (b) ± 11 (c) 11 (d) -11
-

2. Write 126 as the product of prime factors.

- (a) $2 \cdot 3 \cdot 7$ (b) $14 \cdot 3 \cdot 3$ (c) $2 \cdot 2 \cdot 3 \cdot 3 \cdot 7$ (d) $2 \cdot 3 \cdot 3 \cdot 7$
-

3. Factor $x^2 + 2x - 63$ completely. If the polynomial is prime, state so.

- (a) $(x - 9)(x + 7)$ (b) $(x - 9)(x + 1)$ (c) $(x + 9)(x - 7)$ (d) Prime
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4. Solve. $\frac{p}{3} - \frac{3p}{8} = 4$

- (a) -4 (b) -96 (c) 96 (d) 4
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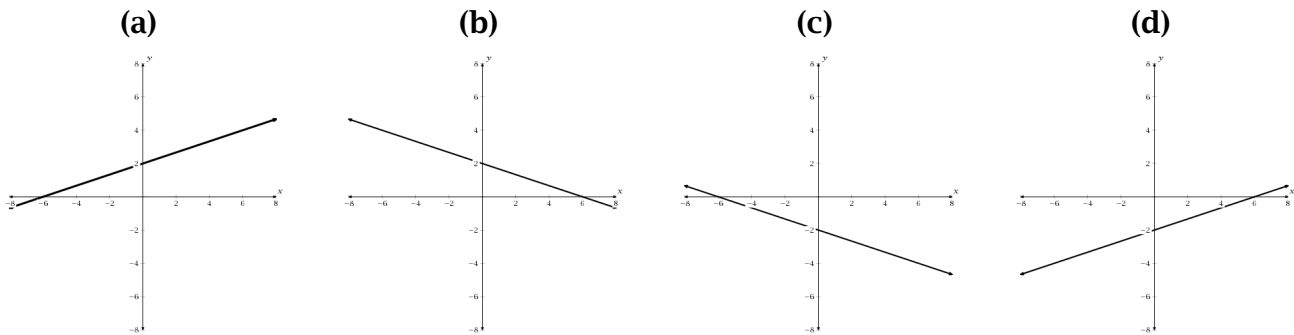
5. Find the value of $8x^2 + 3x$ for $x = 4$.

- (a) 76 (b) 44 (c) 116 (d) 140
-

6. Solve $-10y - 4 = 8 + 6y$.

- (a) -1 (b) $-\frac{4}{3}$ (c) $\frac{4}{3}$ (d) $-\frac{3}{4}$
-

7. Graph. $f(x) = \frac{1}{3}x + 2$



8. Factor out the greatest common factor. $18m^8 - 4m^6 + 6m^4$

- (a) No common factor. (b) $2(9m^8 - 2m^6 + 3m^4)$
(c) $2m^4(9m^4 - 2m^2 + 3)$ (d) $m^4(18m^4 - 4m^2 + 6)$
-

9. Express 175,100 in scientific notation.

- (a) 1.751×10^1 (b) 1.751×10^5 (c) 1.751×10^{-5} (d) 1.751×10^6

10. Simplify using positive exponents. $\frac{y^{-14}}{y^2}$

(a) y^{16}

(b) $\frac{1}{y^{16}}$

(c) $\frac{1}{y^{-12}}$

(d) y^{12}

11. Simplify using positive exponents. $(3t^5)^{-2}$

(a) $\frac{1}{9t^{10}}$

(b) $\frac{9}{t^{10}}$

(c) $\frac{t^{10}}{9}$

(d) $9t^{10}$

12. Simplify. $\frac{k^2 + 9k + 20}{k^2 + 14k + 45} \cdot \frac{k^2 + 9k}{k^2 - 5k - 36}$

(a) $\frac{1}{k-9}$

(b) $\frac{k^2 + 9k}{k-9}$

(c) $\frac{k}{k^2 + 14k + 45}$

(d) $\frac{k}{k-9}$

13. Simplify. $(4p^3s^3)^3(s^4)$

(a) $4p^9s^{13}$

(b) $64p^6s^{36}$

(c) $64p^6s^{10}$

(d) $64p^9s^{13}$

14. Evaluate the polynomial $2x^3 - 3x^2 - 8$ at $x = -2$.

(a) -36

(b) -27

(c) -46

(d) -48

15. Multiply. $(2a - 3)^2$

(a) $4a^2 + 9$

(b) $4a^2 - 12a + 9$

(c) $2a^2 + 9$

(d) $2a^2 - 12a + 9$

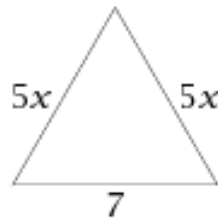
16. Find the perimeter of the figure.

(a) $10x - 7$

(b) $5x + 7$

(c) $10x + 7$

(d) $10x + 14$



17. A triangular lake-front lot has a perimeter of 150 feet. One side is 10 feet longer than the shortest side, while the third is 20 feet longer than the shortest side. Find the lengths of all three sides.

(a) 50 ft, 50 ft, 50 ft

(b) 30 ft, 40 ft, 80 ft

(c) 40 ft, 50 ft, 60 ft

(d) 40 ft, 70 ft, 40 ft

18. The sum of three numbers is 3. The first, minus the second, plus three times the third, is -7 . The third, plus 3 times the first, plus the second, is 11. What are the numbers?

(a) No solution.

(b) 4, 4, 2

(c) $-4, -2, 3$

(d) 4, 2, -3

19. Simplify. $\sqrt[3]{-64a^8b^5}$ Assume all variables non-negative.

(a) $-4a^2b\sqrt[3]{a^2b^2}$

(b) $4ab\sqrt[3]{a^2b^2}$

(c) $4\sqrt[3]{a^2b^2}$

(d) $4ab\sqrt[3]{a^3b^3}$

20. Simplify. $-6\sqrt{3} + 5\sqrt{27}$

(a) $-27\sqrt{3}$

(b) $27\sqrt{3}$

(c) $9\sqrt{3}$

(d) $-13\sqrt{3}$

21. Find all the square roots of 576.

(a) 288, -288

(b) 24

(c) 24, -24

(d) -24

22. The difference of twice a number and 4 equals the number plus 4. What is the number?

(a) 4

(b) 8

(c) 3

(d) 5

23. Simplify. $\frac{4 + \frac{1}{2}}{\frac{1}{3} + \frac{1}{6}}$

(a) 9

(b) $\frac{5}{9}$

(c) 12

(d) $\frac{1}{12}$

24. Find the value of the expression. $\frac{6 \cdot (3 + 3) + 6 \cdot 4}{6 \cdot (4 - 1)}$

(a) $4\frac{16}{23}$

(b) 2

(c) $2\frac{14}{23}$

(d) $3\frac{1}{3}$

25. $\sqrt{10}$ is between what two numbers?

(a) 2 and 3

(b) 3 and 4

(c) 5 and 6

(d) 9 and 11

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ANSWER KEY

- | | | |
|-------|-------|-------|
| 1. c | 11. a | 21. c |
| 2. d | 12. d | 22. b |
| 3. c | 13. d | 23. a |
| 4. b | 14. a | 24. d |
| 5. d | 15. b | 25. b |
| 6. d | 16. c | |
| 7. a | 17. c | |
| 8. c | 18. d | |
| 9. b | 19. a | |
| 10. b | 20. c | |