

ASVAB

Arithmetic Reasoning

Practice Test 01



Watch



Practice



Master

Instructions

Work Through This Test Carefully

This practice test is designed to help prepare for the ASVAB Arithmetic Reasoning section.

The focus is on mathematical reasoning, problem solving, and applying core concepts rather than calculation speed.

Each problem presents an independent challenge and can be solved without reference to the other problems.

How to Use the QR Codes

Detailed solution videos are published on YouTube over time.

- **Printed version:** Scan the QR code to open the corresponding video.
- **Digital version:** Click the QR code to open the corresponding video.

The videos can be used both while working through the problems and for review afterward.

Watch Detailed Solutions on YouTube



Math | With Erwin

This educational material was created independently and is not affiliated with any school, college, university, licensing board, testing organization, or other official institution.

Although every effort has been made to ensure accuracy, the author assumes no responsibility for errors, omissions, or the use of the information provided.

Contents

Instructions	I
Work Through This Test Carefully	I
How to Use the QR Codes.....	I
Questions.....	1
Answer Key.....	9

Questions

- 1** What is 65% of 420?
 - a) 273
 - b) 252
 - c) 294
 - d) 260

- 2** A vendor buys 40 notebooks for \$4 each and sells each notebook for \$7.
What is the total profit, in dollars?
 - a) 280
 - b) 160
 - c) 80
 - d) 120

- 3** If $y = 3$, what is the value of $8y - y$?
 - a) 24
 - b) 21
 - c) 8
 - d) 5

- 4** A box contains 144 pens. If 4 pens are used each day, how many days does one box last?
 - a) 144
 - b) 48
 - c) 36
 - d) 4

- 5** Two numbers have a sum of 84. One number is 10 greater than the other.
What is the smaller number?
- a) 37
 - b) 34
 - c) 32
 - d) 42
- 6** A survey has 48 participants. Eighteen participants prefer option A.
What percent of the participants prefer option A, to the nearest hundredth?
- a) 27.50
 - b) 32.50
 - c) 37.50
 - d) 42.50
- 7** What is the value of $-3(5 - 2 \cdot 3) + 4$?
- a) -5
 - b) 1
 - c) 13
 - d) 7
- 8** A snack costs 25 cents. During a promotion, 4 snacks cost 80 cents.
How much money is saved when buying 12 snacks, in cents?
- a) 15
 - b) 60
 - c) 30
 - d) 90

- 9** A football field is 360 feet long, including the end zones, and 160 feet wide. What is the total area of the field, in square feet?
- a) 576,000
 - b) 57,600
 - c) 51,200
 - d) 520
- 10** If $a = 2$, $b = 5$, and $c = 4$, what is the value of $3a + 6bc + 2b$?
- a) 140
 - b) 166
 - c) 156
 - d) 136
- 11** A streaming service uses $\frac{1}{8}$ of its daily schedule for documentaries. The service streams for 24 hours each day. How many hours are used for documentaries?
- a) 8
 - b) 6
 - c) 3
 - d) 2
- 12** A runner has times of 52, 47, 55, and 46 seconds. To have an average of 48 seconds over five races, what time does the runner need in the next race, in seconds?
- a) 42
 - b) 40
 - c) 44
 - d) 48

13

Which expression is equal to 0?

- a) $3 - 2 + 4$
- b) $(4y)(2y)$
- c) $5 - (3 \cdot 2)$
- d) $3(2 - 2)$

14

A protective coating costs \$0.80 per square yard. A rectangular patio measures 15 feet by 21 feet, where 1 yard = 3 feet.

What is the total cost to coat the patio, in dollars?

- a) 28
- b) 252
- c) 224
- d) 35

15

A shopper has \$68.20. A T-shirt costs \$18.00. The sales tax is 5%.

What is the greatest number of T-shirts the shopper can buy?

- a) 2
- b) 5
- c) 3
- d) 4

16

A cyclist rides at 30 miles per hour. Forty minutes later, a second cyclist leaves the same location and rides in the same direction. The second cyclist catches up 2 hours after leaving.

What is the speed of the second cyclist, in miles per hour?

- a) 36
- b) 40
- c) 38
- d) 42

- 17** A team has 8 workers and must clean 72 offices. At the end of the day, 24 offices are not cleaned.
On average, how many offices does each worker clean?
- a) 6
 - b) 12
 - c) 9
 - d) 7
- 18** A company's revenue increases by \$720,000. This is 20% more than expected.
What is the expected increase, in dollars?
- a) 700,000
 - b) 500,000
 - c) 480,000
 - d) 600,000
- 19** What is the prime factorization of 840?
- a) $2 \cdot 2 \cdot 2 \cdot 2 \cdot 5 \cdot 7$
 - b) $2 \cdot 2 \cdot 3 \cdot 5 \cdot 7$
 - c) $2 \cdot 2 \cdot 2 \cdot 3 \cdot 5 \cdot 7$
 - d) $3 \cdot 5 \cdot 7$
- 20** A walking path measures $\frac{1}{3}$ mile per lap.
How many laps does a person walk to cover $4\frac{1}{2}$ miles?
- a) 12.00
 - b) 13.50
 - c) 18.00
 - d) 15.00

- 21** An investor deposits \$4,500 in an account that earns 4% annual interest. No additional money is added.
- What is the total amount in the account after 1 year, in dollars?
- a) 180
 - b) 4,320
 - c) 4,504
 - d) 4,680
- 22** A strip has a total length of 20 inches. It is divided into three pieces. The longest piece is four times the length of the shortest piece. The middle piece is three times the length of the shortest piece.
- What is the length of the shortest piece, in inches?
- a) 2.50
 - b) 3.50
 - c) 4.00
 - d) 3.00
- 23** A mixture contains 55% component *X*, 30% component *Y*, 10% component *Z*, and 5% component *W*. The total mixture is 24 gallons.
- How many gallons of component *X* are required, in gallons?
- a) 10.00
 - b) 13.20
 - c) 12.00
 - d) 14.00
- 24** The sequence is 4, 9, 19, 39, 79. Each term is based on the previous term. If x represents a term in the sequence, which expression gives the next term?
- a) $3x - 1$
 - b) $2x - 1$
 - c) $2x + 1$
 - d) $x + 5$

- 25** A water tank has a capacity of 50 gallons. The tank is filled to $\frac{2}{5}$ of its capacity. How many gallons of water are in the tank, in gallons?
- a) 25
 - b) 15
 - c) 10
 - d) 20
- 26** Five pizzas are each cut into 12 equal slices. After a party, $\frac{1}{3}$ of one pizza, $\frac{1}{6}$ of another pizza, $\frac{1}{4}$ of another pizza, and $\frac{1}{2}$ of another pizza remain. How many slices of pizza are left, in slices?
- a) 15
 - b) 13
 - c) 19
 - d) 17
- 27** If $a = -2$, $b = 3$, and $c = -4$, what is the value of the expression shown below?
- $$2a^2b - 3bc + 4(a - c)^2 - 5b$$
- a) 107
 - b) 69
 - c) 53
 - d) 61
- 28** A truck travels at 60 miles per hour for 2 hours. The truck then travels at 45 miles per hour for 5 hours. Which expression represents the total distance traveled, in miles?
- a) $\frac{60}{2} + \frac{45}{5}$
 - b) $\frac{60}{2} - \frac{45}{5}$
 - c) $(2 \cdot 60) + (5 \cdot 45)$
 - d) $(5 \cdot 45) - (2 \cdot 60)$

29

A maintenance worker walks a route that is 9 city blocks long. He walks at a rate of 12 city blocks every 36 minutes.

How long does it take to complete the route, in minutes?

- a) 27
- b) 24
- c) 30
- d) 18

30

A fitness instructor earns \$18 per hour. She teaches on Tuesdays and Fridays from 9 AM to 11 AM and from 12 PM to 6 PM. She also teaches on Sundays from 10 AM to 2 PM.

What is the total amount she earns in one week, in dollars?

- a) 396
- b) 324
- c) 432
- d) 360

Answer Key

1: a) 273	11: c) 3	21: d) 4,680
2: d) 120	12: b) 40	22: a) 2.50
3: b) 21	13: d) $3(2 - 2)$	23: b) 13.20
4: c) 36	14: a) 28	24: c) $2x + 1$
5: a) 37	15: c) 3	25: d) 20
6: c) 37.50	16: b) 40	26: a) 15
7: d) 7	17: a) 6	27: d) 61
8: b) 60	18: d) 600,000	28: c) $(2 \cdot 60) + (5 \cdot 45)$
9: a) 576,000	19: c) $2 \cdot 2 \cdot 2 \cdot 3 \cdot 5 \cdot 7$	29: a) 27
10: d) 136	20: b) 13.50	30: d) 360

Watch Detailed Solutions on YouTube



Found a mistake or have an idea for a new problem?

Feel free to email us at: feedback@witherwin.com



Math | With Erwin

Watch. Practice. Master.

YouTube – Watch Solutions Step by Step

Downloads – Get Additional Worksheets and Resources

www.witherwin.com