



Australian Government

A U S T R A L I A N
A P P R E N T I C E S H I P S

Your Life. Your Career. Your Future.

Building and Construction

Practice Aptitude Quiz

Practice Aptitude Quiz

Part 1: About this quiz

Use this quiz to prepare for an Apprenticeship in the Building and Construction industry

This quiz:

- Is NOT a formal assessment tool or pre-requisite for any job application
- Shows key learning standards for the Building and Construction industry
- Has been developed with the help of industry leaders, TAFE and high schools

Quiz details

This quiz will:

- Take approximately 45 to 60 minutes to complete
- Ask you numeracy and literacy questions specific to the Building and Construction industry
- Assess your literacy and numeracy at a Year 11 standard
- Allow you to use a calculator
- Share correct answers at the end

Who should take this quiz?

You should complete this quiz if you:

- Are thinking about starting an Apprenticeship in the Building and Construction industry
- Want to practise for a formal aptitude test

Need help with your literacy and numeracy skills?

If you want to improve your literacy and numeracy skills, reach out to any of the below:

- Australian Apprenticeship Support Network providers
- Your Registered Training Organisation when you start training
- Reading Writing Hotline:
1300 655 506
www.readingwritinghotline.edu.au
- Careers advisers and your teachers (if you're in high school)

More information about the Building and Construction industry

Visit www.yourcareer.gov.au/industries/e/construction

On this page you'll be able to:

- See the most popular Building and Construction industry occupations
- Get general information and statistics about the industry
- Search for Building and Construction industry courses

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How to use this quiz

This is an interactive form that can be filled out on your computer.

You can either:

- Fill it out on your computer; OR
- Print it out; OR
- Write your answers down on paper as you go.

Use the answers section at the end of the quiz to see how you went.

How to complete this quiz on your computer

1. Download and save the quiz onto your computer
2. Open the file from your computer
3. Fill in the form using a keyboard and mouse

Practice Aptitude Quiz

Part 2: The Quiz

Section 1: Language and Literacy

1. The following text has 12 spelling errors in it. List those errors with the correct spelling in the order you find them in the text:

Today the Construction, Plumbing and Services Industry is worth over \$50 billion and employs over three quarters of a million people. The industry is divided into three sectors: domestic; comercial; and civil. The magority of workers are ether aprentices/trainees, construction workers or tradspersons. There are over 20 trades ranging from concrite and steal workers to telecommunication technicians. There are many carrear pathways and oportunities available to prospective employes willing to apply themselves.

1.	7.
2.	8.
3.	9.
4.	10.
5.	11.
6.	12.

2. Write the correct spelling for the following words:

a. Elemination	_____
b. Prefabrikated	_____
c. Demolishon	_____
d. Certifikate	_____
e. Sprinklar	_____
f. Briklaying	_____
g. Vocationl	_____
h. Permision	_____
i. Comitees	_____
j. Partisipate	_____

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3. Read the following passage and answer the questions that follow:

The purpose of the construction industry is to erect structures, from simple house structures to major civil and commercial structures. A construction project begins with an idea and ends with the completion of the final structure. From beginning to end there are several stages and each stage has its own series of steps. In order for each stage of the project to be completed successfully effective communication is vital.

Communication can only be considered successful when the receiver of the information understands exactly what the sender of the information intended. Feedback from the receiver of the information to the sender of the information can determine if the communication was successful. Workplace communication is how we convey or share information in the workplace. People use a wide variety of methods to communicate with each other. Sometimes these are used alone or combined together to make a message or information clearer. Methods of communication include verbal, written, electronic and non-verbal. When communicating you must be accurate, clear, concise, comprehensive and logical.

- a. What is the main purpose of the construction industry?

- b. What is a vital tool or skill that is used in the building and construction industry to ensure a project is completed successfully?

- c. Explain how you would know if someone had understood an instruction you gave them:

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d. List three different examples of ways to exchange information:

e. Do you think effective communication is important in the building and construction industry? Why?

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Section 2: General Knowledge

1. Below is a list of tools. Write the name of each tool underneath its picture:

Mallet

Claw
Hammer

Phillips Head
Screwdriver

Ball-Peen
Hammer

Masonry or
Brick Hammer

Slotted
Screwdriver



a.



b.



c.



d.



e.



f.

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2. Read the following about Personal Protective Equipment (PPE) and then answer the questions that follow:

Personal protective clothing, overalls, hand protection and foot protection, and respiratory equipment are often required when hazards such as dangerous gases and dusts are present. Personal Protective Equipment (PPE) includes clothing, equipment and substances designed to be worn by a person to protect them from risks of injury or disease.

PPE is only to be used in the workplace where it is not reasonably practicable to control hazards by other means.

The following information describes some PPE and signs used to guard workers against specific hazards.

Gloves



Photo A

Breathing Mask



Photo B

Goggles



Photo C



Sign A



Sign B



Sign C



Sign D

Parts of Body	Some Potential Hazards
Head	Falling objects.
Face & Eyes	Sparks, ultraviolet light, metal shards, chemical splashes, fumes, and wood splinters.
Hearing:	Excessive noise.
Respiratory:	Dust, fumes, vapours, wood shavings, and sawdust.
Hands:	Abrasion, sparks, irritant substances, vibration, electric shock, and wood splinters.
Feet:	Crushing, slipping, abrasion, irritant substances, wetness, electric shock, static electricity, puncture, and cold/heat.

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Questions:

- a. Using a hammer drill can produce sparks that have the potential to damage eyes. What PPE or signs could be used to guard against this hazard? Write the photo and/or sign title below: (Note: there may be more than one answer in this case)

- b. If you are lifting heavy objects there is a risk of dropping the load on your feet. What PPE or sign could be used to minimise this risk? Write the photo and/or sign title below:

- c. Some machinery operates at high noise levels. What PPE or sign could be used to help protect worker's hearing in these types of situations? Write the photo and/or sign title below:

Practice Aptitude Quiz

Section 3: Numeracy

1. Match the abbreviations to the correct unit of measurement which they represent. Write your answers in the table below:

kg	cm ³	klm/hr	m ²
AUD	m	min	°C
Length		Time	
Temperature		Weight	
Area		Speed	
Volume		Cost	

2. Match the numbers to their descriptions. Write your answers in the table below:

3/8	35°	25%
5:4	16.37	2 $\frac{1}{3}$
Percentage	Decimal number	
Fraction	Mixed number	
Ratio	Angle	

3. Write the following as a number:

a. Two thousand six hundred and thirty four

b. Fifty six thousand and eighty seven

4. Round the following numbers:

a. 35.6754 to two decimal places

b. 425.8 to the nearest ten

c. 248 to the nearest hundred

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5. Estimate values for the following:

a. Height of a standard door (use m or mm)

b. Length and width of A4 sized paper (use cm)

c. Angle between the floor and wall (use degrees)

d. Floor area of a single car garage (use m²)

6. Write the following decimals in descending order:

7.19

71.9

0.719

7. Solve the following:

a. $2 + 3 \times 4$

b. $4 - 10 \div 2$

c. $50 + 50$

d. 2×25

e. $(16 - 5) \times 3$

f. $(75 \div 5) \div (12 \div 4)$

g. 8^2

h. $\sqrt{25}$

8. Subtract the following:

a. 1,784 from 5,218

b. 29.461 from 43.18

9. Find the total of the following:

a. \$2.00, \$21.45 and \$8.23

b. 18.32, 471.019 and 315

c. 2.63 m and 50 cm

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10. Multiply the following:

a. 6.87 by 10

b. 13.8 by 3

c. 46.2 by 8.5

11. Divide the following:

a. 3.45 by 10

b. 3024 by 14

c. 56.2 by 0.2

12. Select the best estimate for each of the following:

a. $4,249 \times 71 =$ 280,000 150,000 28,000

b. $80,000 \div 38 =$ 200 2,000 4,000

13. Add the following:

a. $\frac{1}{4}$ and $\frac{1}{2}$

b. $\frac{2}{9}$ and $\frac{5}{6}$

c. $3\frac{1}{4}$ and $\frac{1}{8}$

14. Subtract the following:

a. $\frac{5}{6} - \frac{1}{4}$

b. $\frac{21}{14} - \frac{4}{7}$

15. Which fraction is between $\frac{1}{4}$ and $\frac{3}{4}$?

Practice Aptitude Quiz

16. Evaluate the following:

a. 10% of \$44

b. 25% of 12.84

17. Michelle earns \$800 a week. She gets a pay rise of 5%. What is her new wage?

18. Mal purchased a belt sander for \$250 which he later sold for \$375:

a. How much profit did he make?

b. What was the profit as a percentage of the cost price?

19. Rebecca is a painter who buys the following items from a paint store:

**Paint \$215; rollers and brushes \$95; cleaning fluids \$12; and plastic covers \$8.
Rebecca gets a 10% trade discount. Given these figures calculate the following:**

a. How much would Rebecca pay without the discount?

b. How much will she pay with the discount?

c. How much has Rebecca saved?

20. Akeem scored 80% in an exam. There were 25 questions:

a. How many questions did he get right?

b. How many questions did Akeem get wrong?

21. Find the decimal number halfway between:

a. 0.6 and 0.8

b. 2.8 and 2.9

Practice Aptitude Quiz

22. If a plastic pipe costs \$8.00 a metre, how many complete metres of pipe could be bought for \$60:

23. Camillo bought Christmas lunch for his four employees. The cost was \$148.60. What would the cost have been if:

a. If the cost of the lunch had been split equally among the five people, how much would each have paid?

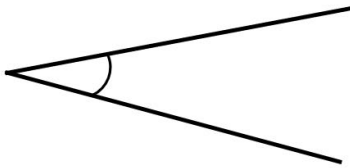
b. If Camillo had paid using a voucher giving a 40% discount, how much would have the have lunch cost?

24. Phil is a plasterer and earns \$28.00 an hour for a normal 38-hour week. For any overtime, that is hours worked over the standard 38-hour week, he receives a pay rate of 'time-and-a-half' or one and a half times the normal pay rate. What is Phil's total pay if he works 42 hours this week?

Practice Aptitude Quiz

25. Estimate the size of the following angles by selecting the appropriate answers from the list below. Select the correct answer:

a.

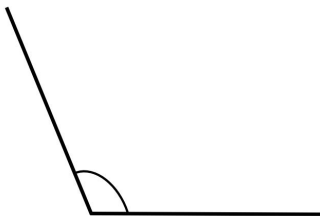


30°

110°

170°

b.



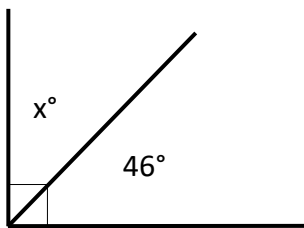
30°

110°

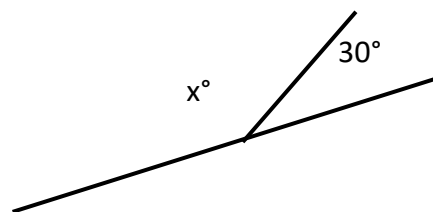
170°

26. Find the value of x° in the following:

a.



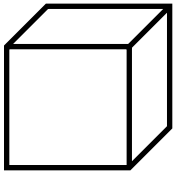
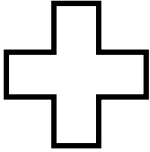

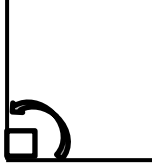
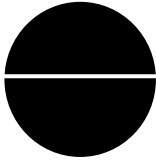

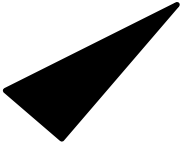
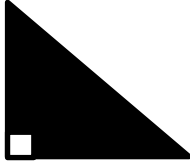
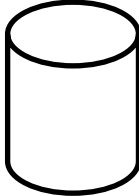
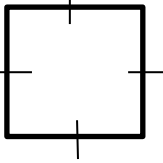
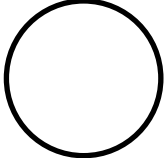
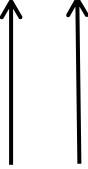
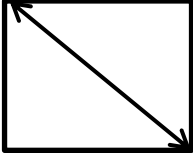
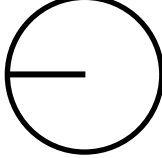
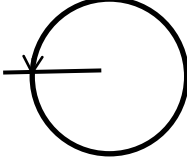

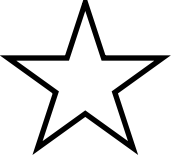
b.



Practice Aptitude Quiz

27. Match the description of shapes in the table to the pictures below. Write your answer in the table (match the alphabets with the roman numerals):

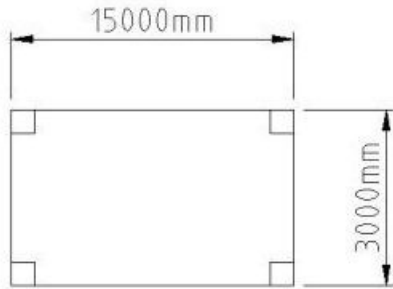
a. Circle	j. Cylinder
b. Triangle	k. Diagonal
c. Rectangle	l. Right angle
d. Square	m. Revolution
e. Semicircle	n. Right angled triangle
f. Parallel lines	o. Straight angle
g. Cross	p. Circle and diameter
h. Star	q. Circle and radius
i. Cube	

 i.	 ii.	 iii.	 iv.	 v.
 vi.	 vii.	 viii.	 ix.	 x.
 xi.	 xii.	 xiii.	 xiv.	 xv.
 xvi.	 xvii.			

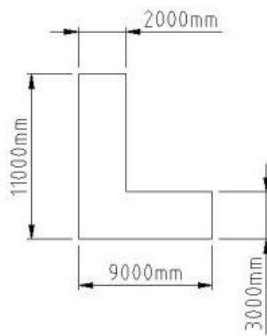
Practice Aptitude Quiz

28. Find the perimeter of these shapes:

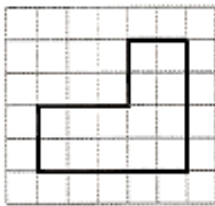
a.



b.



29. If each square represents 1 square centimetre, what is the area of the shape shown?



30. A bricklayer estimates there are 55 bricks to the square metre. How many bricks are needed for a 6-square metre wall?

Practice Aptitude Quiz

31. A circular flowerbed with a radius of 3 metres is to be surrounded by a concrete path 1 metre wide:

- Calculate the area of the path, where $\pi = 3.14$:
- A quote to supply and lay the concrete for this path is \$10 per square metre. What is the cost of the path?

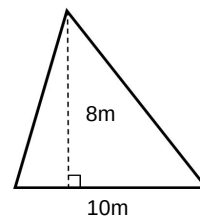
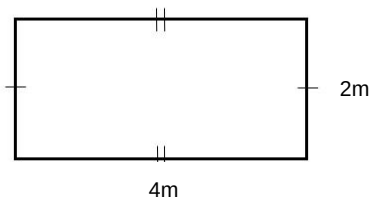
32. An oil can in the shape of a cylinder has a radius of 6 cm and a height of 20 cm. What is the volume of the can? (Use $\pi = 3.14$)

33. Dirk is going to paint the ceiling in his lounge room. The room measures 6 metres by 3 metres. Given that one litre of ceiling paint covers 12 square metres:

- What is the area of the ceiling?

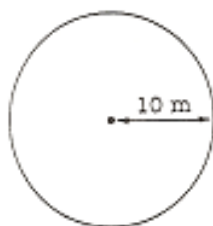
- How many litres of paint will he use?

34. What is the area of these shapes?



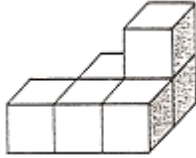
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35. Calculate the area of this circle? Use the formula $A = \pi r^2$, where $\pi = 3.14$.

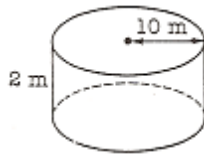


Practice Aptitude Quiz

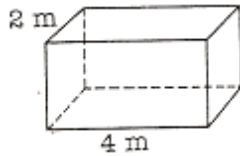
36. If each cube represents 1 cubic centimetre, what is the total volume of the shape shown?



37. Calculate the volume of the cylinder using the formula $V = \pi r^2 h$. Where $\pi = 3.14$:

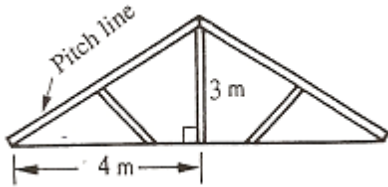


38. If the volume of this box is 24 cubic metres, how high are the sides?

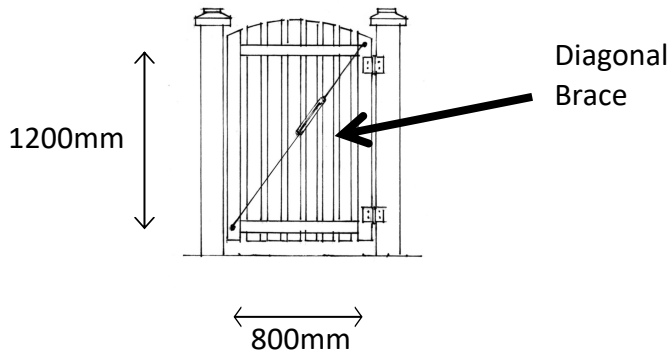


Practice Aptitude Quiz

39. Calculate the pitch line length of one side of the gable roof:



40. A wooden gate 800 mm wide and 1200 mm high needs a diagonal brace for support. How long will the brace be?



41. A ready-mix concrete company uses metal, sand and cement in the ratio of 7:5:3. What amount of cement is needed for a 15 m^3 job?

42. If the scale on a drawing is 1:100, what length will be represented on the drawing by a measurement of 80 mm?

43. What is the ratio of the number of squares to circles?



44. Adam always mixes 8 shovels of sand with 10 shovels of metal when he makes concrete. How many shovels of sand will Adam mix with 50 shovels of metal?

Practice Aptitude Quiz

45. Calculate the cost of 40 hinges at \$3.00 a pair:

46. If five litres of glue costs \$65.00, how much will 1 litre cost?

47. Carla, a 3rd year apprentice, is paid a yearly salary of \$37,200.

Calculate her:

a. Monthly salary _____

b. Fortnightly salary _____

48. Peter the carpenter is paid \$26.00 per hour plus time and a half for any hours over 35 hours per week. If he worked 42 hours last week, what was his pay for:

a. The first 35 hours work? _____

b. The overtime work only? _____

c. The whole week? _____

49. Eamon's car uses 10 litres of petrol every 300 kilometres. What is its rate of petrol consumption in km per litre?

50. If a 3,600 litre water tank is $\frac{1}{4}$ full:

a. How much water is in the tank? _____

b. How much is empty space? _____

51. Simon is a bricklayer. He uses 50 bricks to build a 1 square metre wall. How many bricks are needed to build a wall that measures 6 metres by 3 metres?

52. Gerry is a carpenter making a bookcase. She hit a nail 65 mm long through a piece of wood 22.5 mm thick and into a large piece of wood. How far did the nail go into the large piece of wood?

Practice Aptitude Quiz

ANSWERS

Section 1: Language and Literacy

1. billion, commercial, majority, either, apprentices, tradespersons, concrete, steel, telecommunication, career, opportunities, employees.
2. Elimination, Prefabricated, Demolition, Certificate, Sprinkler, Bricklaying, Vocational, Permission, Committees, Participate.
3.
 - a. The main purpose of the industry is to erect structures. These structures could range from simple house structures to major multi-storey civil and commercial structures.
 - b. Effective communication is vital in order for each stage of the building project to be completed successfully.
 - c. You can tell if someone has understood the instruction you gave them from the feedback the receiver gives you.
 - d. Verbal: speaking to each other, Written: leaving a note, Electronic: sending an email, or Non-verbal: body language (nodding head).
 - e. Yes, it's very important. There are so many stages between the commencement of a structure to the completion. Several tradespeople are involved and are often relying on work to be completed before they can start theirs. If there is a breakdown in communication, stages can become delayed, structures aren't built properly, the building of the structures might have to start again and generally time and resources are wasted. Break down of communication can become very costly as well.

Section 2: General Knowledge

1. a. Claw Hammer b. Phillips Head Screwdriver c. Ball-Peen Hammer d. Slotted Screwdriver e. Mallet
f. Masonry or Brick Hammer
2. a. Photo C and Sign C b. Sign B c. Sign D

Section 3: Numeracy

1. Length: m, Time: min, Temperature: °C, Weight: kg, Area m², Speed: km/hr, Volume: cm³, Cost: AUD
2. Percentage: 25%, Decimal: 16.37, Fraction: $\frac{3}{8}$, Mixed number: $2\frac{1}{3}$, Ratio: 5:4, Angle: 35°
3. a. 2634 b. 56087
4. a. 35.68 b. 430 c. 200
5. a. 2m or 2000mm b. 30cm by 20cm c. 90° d. 6 m x 3 m = 18 m²
6. 71.9, 7.19, 0.719
7. a. 14 b. -1 c. 100 d. 50 e. 33
f. 5 g. 64 h. 5
8. a. 3434 b. 13.719
9. a. \$31.68 b. 804.339 c. 3.13 m or 313 cm
10. a. 68.7 b. 41.4 c. 392.7
11. a. 0.345 b. 216 c. 281
12. a. 280000 b. 2000
13. a. $\frac{3}{4}$ b. $\frac{19}{18}$ or $1\frac{1}{18}$ c. $\frac{27}{8}$ or $3\frac{3}{8}$
14. a. $\frac{7}{12}$ b. $\frac{13}{14}$
15. a. $\frac{1}{2}$ or $\frac{2}{4}$
16. a. \$4.40 b. 3.21
17. \$840

