



**Practice Aptitude**  
**– QUIZ –**

**Printing Industry**



# Practice Aptitude QUIZ

## Part 1: About this Printing Resource

### Guidance

This Practice Aptitude Quiz is intended to be a general illustration of some of the key learning standards required of people attempting an Australian Apprenticeships entry-level qualification in the Printing and Graphic Arts Industry.

This Practice Aptitude Quiz is neither a formal tool nor a direct pre-requisite for any job application.

The quiz focuses on literacy, numeracy, comprehension, mechanical and problem-solving questions contextualised to the Printing industry.

The mathematical skills required to complete the questions contained within this document are equivalent to mathematics at the Year 10 level.

Different organisations and people such as careers practitioners can use the quiz with young people, Group Training Organisations and Job Services Australia providers with job seekers.

### The Practice Aptitude Quiz can be:

- Used by careers practitioners with individuals or in a class setting to provide general guidance on the level of study involved in undertaking an entry level qualification in this industry;
- Provided to people to enable them to practice their skills before sitting an actual aptitude test;
- Used by Mathematics teachers as a guide to industry maths requirements at the entry point of this particular Australian Apprenticeship;
- Used by teachers as classroom based activities for students in Year 11.

Please note that rates quoted in this assessment for various items, including pay rates, are not meant to reflect today's values, but are used purely for mathematical purposes.

The quiz should be able to be completed in approximately 60 minutes.

Calculators may be used to complete this practice exercise.

Answers are located at the end of the quiz.

### Important Note:

If you are colour blind you may not be suitable for some of the printing trades, especially those that deal with colour matching. If you are unsure about whether you are colour deficient it is recommended that you undertake a colour blindness test. Here is a link to a free online test. Use this as a guide only.

[www.colour-blindness.com/colour-blindness-tests](http://www.colour-blindness.com/colour-blindness-tests)

See a professional for confirmation.



# Practice Aptitude QUIZ

## **Printing Industry Career, Occupational Information and Job Hunting Resources**

Information and links on the Printing Industry, careers, job prospects as well as career websites and job hunting resources can be found at [www.aapathways.com.au/Career-Resources](http://www.aapathways.com.au/Career-Resources).

## **After the Quiz**

There are a range of support services available to help you find out about courses that may help you improve your literacy and numeracy skills and also your readiness for work.

If you are still at school you should discuss any concerns you may have with your career practitioner. Further information may also be provided by an employment service provider, an Australian Apprenticeships Support Network (Apprenticeship Network) provider, a Group Training Organisation or a training provider.

## **Useful Contacts**

### **Here are some links to job seeker support services:**

- Search for your local Australian Apprenticeships Support Network (Apprenticeship Network) provider [www.aapathways.com.au/sps](http://www.aapathways.com.au/sps)
- Find a local Group Training Organisation [www.grouptraining.com.au/Find/find\\_gto.html](http://www.grouptraining.com.au/Find/find_gto.html)
- Employment service providers work with eligible job seekers to develop an individually tailored plan. The plan maps out the training, work experience and additional assistance needed to find job seekers sustainable employment - <https://jobsearch.gov.au/>



# Practice Aptitude QUIZ

## Part 2: The Quiz

### Section 1 - Literacy, Reading and Comprehension

#### Spelling

1. Write the following words or groups of words associated with the Printing industry in alphabetical order:

|                   |  |
|-------------------|--|
| Software          |  |
| Print finisher    |  |
| Ink               |  |
| Folding           |  |
| Printing          |  |
| Lithography       |  |
| Graphic Pre-Press |  |
| Kerning           |  |
| Screen printing   |  |
| Computer to Plate |  |

2. The following text has 10 spelling errors. Correct those errors and list them in the order you find them in the table that follows.

Graphik Pre Press personell use computer software to create and edit images and graphics, layout pages and prepear files for print or other media. Printers use traditonal or digital printing presses to print, mostly on different types of paper and boardd. Print finishers can use a combinnation of machinnery and hand techniques to finish a diversse range of printed products. Screen printers use different stencil methods and large fourmat printing machines to print on a huge range of different substrates.

|  |  |
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|  |  |



# Practice Aptitude QUIZ

## Comprehension

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

The printing press is considered one of the most important inventions in history. This device has made it possible for books, newspapers, magazines, and other reading materials to be produced in great numbers.

In Europe in the mid-15th Century, a former goldsmith called Johannes Gutenberg created an alloy that was made up of tin, lead, and antimony. This alloy's main advantages were that it melted at low temperature, and it was excellent for die casting and durable in the printing press. It made it possible for separate type pieces to be used and reused. Instead of carving entire words and phrases, Gutenberg carved the mirror images of individual letters on a small block, allowing the letters to be moved easily and arranged to form words. This device was the printing press, and it revolutionized the printing industry.

In 1452, Gutenberg started printing his most famous project, the Gutenberg Bible. He managed to produce a total of two hundred copies of the bible.

Gutenberg's printing press led to a dramatic increase in the number of print shops throughout Europe.

Nonetheless, as the demand for printed materials increased over time, there was a need for a printing press that could produce higher quality prints at a faster rate.

In the year 1800, Earl Stanhope from England invented a cast iron printing press that was capable of producing cleaner and more vivid impressions.

Today, printing is mostly done with the use of computers, and modern printing presses and devices can produce prints at a much faster rate than those that were used in the past.

The use of digital printing applications and integration of these applications into traditional print markets is rapidly expanding.

Digital, unlike the traditional print processes, is a direct to output device process so it doesn't employ a "pre-press" operation as would be associated with traditional commercial printing technologies such as screen or lithographic printing. Instead, the image is created on the computer and transmitted directly to the output device.

The other distinct difference between the use of digital applications and traditional print is the relationship between the equipment and ink delivery system.

Output devices such as inkjet printers, are developed with specific ink and ink delivery system in place which is unique to each digital press.

Even though digital saves time by taking out operations, determining when to use digital printing instead of a traditional printing process is highly dependent on the number of prints needed as well as the production speed of the output device.

Did you know, more printing is done in one second today than in an entire year during the 15th and 16th centuries?



# Practice Aptitude QUIZ

**Answer the following questions:**

a. Name the three materials contained in the alloy that Gutenberg created.

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b. What were the alloy's main advantages?

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c. What was Gutenberg's most famous project?

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d. In 1800, who invented the cast iron printing press?

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e. There are two main differences between digital printing and traditional printing processes. What are they?

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# Practice Aptitude QUIZ

## Workplace Health and Safety

### Manual Handling

4. The Printing industry presents many challenges with regards to manual handling. Read the following procedure and answer the questions that follow.

| Safe lifting procedures  |
|--|
| To minimise the incidents of manual handling injuries staff should follow this procedure.              |
| Before you lift anything, assess the load so you know if it is very heavy.                             |
| If you must lift and carry heavy loads, use the following correct techniques:                          |
| + Keep the load close to the body to ensure you will not have to reach out to pick up;                 |
| + Lift with the thigh and leg muscles and have your feet well balanced so you do not overbalance;      |
| + Lift with your legs, not your back. Keep your back as straight as possible;                          |
| + Get a firm grip with both hands so the load does not slip when lifting;                              |
| + When you pick up or set down a load, do not reach more than 10 inches away from your body;           |
| + Lower your body without bending your back;   |
| + Do not twist your body;  |
| + Use two people to lift and move a heavy load;  |
| + Use lifting hooks or fitting handles to loads to reduce reaching when lifting and carrying;          |
| + Only do tasks you are trained to do;   |
| + If you are not sure about how to lift any load, speak to your supervisor immediately for assistance. |

- a. Why do you need to get close to the load before picking it up?

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# Practice Aptitude QUIZ

b. Are the people in the pictures lifting safely according to the procedures?  
Why or why not (explain below)?

i.



ii.



i.

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ii.

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c. What should staff do if they are not sure about how to lift a load?

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# Practice Aptitude QUIZ

## Personal Protective Equipment

### 5. Read the following item about Personal Protective Equipment (PPE).

Personal protective clothing, overalls, hand protection and foot protection are often necessary and respiratory protective equipment may be required when 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 used to guard workers against specific hazards. Look at the Signs or Photos, read the information and then answer the questions that follow.

**Gloves**

**Photo A**



**Breathing mask**

**Photo B**



**Goggles**

**Photo C**



**Sign A**



**Sign B**



**Sign C**



**Sign D**

| Part of Body | Some Potential Hazards  |
|--------------|---|
| Head         | Falling objects   |
| Face & Eyes  | Fluids, ultraviolet light, chemical splashes, fumes   |
| Hearing      | Excessive noise   |
| Respiratory  | Dust, fumes, vapours  |
| Hands:       | Abrasion, sparks, irritant substances, vibration, electric shock  |
| Feet:        | Crushing, slipping, abrasion, irritant substances, wetness, electric shock, static electricity, puncture, cold/heat |



# Practice Aptitude QUIZ

## Questions

- a. You are cleaning a printing machine using a chemical that has the potential to damage eyes. What PPE could be used to guard against this hazard? *(Note: there may be more than one PPE that can be used in this case)*

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- b. If you are lifting heavy objects there is a risk of dropping the load on your feet. What PPE offers protection if this were to happen?

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- c. Some workplaces use chemical agents to maintain or clean equipment. What two PPE could be used to protect you from inhaling chemical fumes and prevent contact between the chemicals and your hands?

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- d. Some machinery operates at high noise levels. What PPE helps protect a worker's hearing in these types of situations?

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# Practice Aptitude QUIZ

## Section 2 - Mathematics

### Numbers (Conversions, Percentages, Time)

#### 1. Convert the following measurements:

- a. 3.53 centimetres to millimetres
- b. 393 millimetres to centimetres
- c. 464 centimetres to metres
- d. 1.7 kilograms to grams
- e. 29.6 grams to kilograms
- f. 256 millilitres to litres

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#### 2. Round these numbers:

- a. 27.9583 to two decimal places
- b. 43.6421 to two decimal places
- c. 425.8 to the nearest ten
- d. 247 to the nearest hundred

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#### 3. Divide:

- a. 4.45 by 10
- b. 3,098 by 14
- c. 65.9 by .02

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#### 4. Multiply:

- a. 7.76 by 10
- b. 59.9 by 3
- c. 34.7 by 7.4

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# Practice Aptitude QUIZ

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

$\frac{1}{4}$

$45^\circ$

76%

3:1

34.37

|                |  |
|----------------|--|
| percentage     |  |
| decimal number |  |
| fraction       |  |
| ratio          |  |
| angle          |  |

6. Write as a number:

a. One thousand and fifty-seven. \_\_\_\_\_

b. Six thousand seven hundred and eighty-five. \_\_\_\_\_

c. Twenty-seven thousand and three. \_\_\_\_\_

## Percentages

7. Evaluate the following:

a. 10% of \$256 \_\_\_\_\_

b. 3.75% of 76.75 \_\_\_\_\_

c. 45% of 4,560 \_\_\_\_\_

d. 3% of 5,000 \_\_\_\_\_

8. Bisma scored 80% in an exam. There were 30 questions.

a. How many questions did Bisma get right? \_\_\_\_\_

b. How many questions did Bisma get wrong? \_\_\_\_\_

9. John, a qualified printer, earns \$1,050 a week. He receives a pay rise of 3.5%. What is his new wage? \_\_\_\_\_

10. Michaela has just completed her apprenticeship in Graphic Pre-Press. She will now receive a pay increase from \$850 a week to \$952. What percentage was her increase? \_\_\_\_\_



# Practice Aptitude QUIZ

11. In an order of 1,500 business cards, 150 have been found to be below standard.

What percentage were:

a. Below standard

\_\_\_\_\_

b. Required standard

\_\_\_\_\_

12. In an order of 25,000 books, 40% need to be delivered in 3 days. How many books are required?

\_\_\_\_\_

## Ratios

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



\_\_\_\_\_

14. To produce the colour Pantone 104C, Joe the Printer needs to mix up the ink.

To mix the colour he needs to mix 94.10 parts of Pantone Yellow and 5.90 parts of Pantone Black to produce 100 grams. How much of each colour would he need to mix to produce one kilogram of ink?

Pantone Yellow

\_\_\_\_\_

Pantone Black

\_\_\_\_\_

15. Two gears have 12 and 15 teeth respectively. What is the ratio of the number of teeth on the first gear to the number of teeth on the second gear in lowest terms?

\_\_\_\_\_

## Problem Solving

16. How many pieces of paper, 205 mm x 125 mm in size could be cut from a large sheet 640mm x 510mm in size?

\_\_\_\_\_



# Practice Aptitude QUIZ

17. Robert is a Screen Printer and earns \$30 an hour plus 'time and a half' (or one and half times the normal hourly pay rate) for any hours over 38 hours. If he worked 42 hours, what was his pay for:

- a. The first 38 hours work? \_\_\_\_\_
- b. The overtime work only? \_\_\_\_\_
- c. The entire week? \_\_\_\_\_

18. A folding machine folds 6,500 leaflets an hour. How many will be folded in 3.5 hours?

\_\_\_\_\_

19. If a 25-litre container of glue costs \$165, how much does it cost per litre?

\_\_\_\_\_

20. Camella is Production Manager at a printing company, and receives a yearly salary of \$75,000. Calculate her:

- a. Monthly salary \_\_\_\_\_
- b. Fortnightly salary \_\_\_\_\_

21. If pallets are stacked with boxes (see diagrams), 4 layers high with each box containing 150 books, calculate how many books are on each pallet.

Top View (aerial)



a. \_\_\_\_\_

Top View (aerial)



b. \_\_\_\_\_



# Practice Aptitude QUIZ

## Mechanical

22. If gear X turns in a clockwise direction, in which direction does gear Y turn?



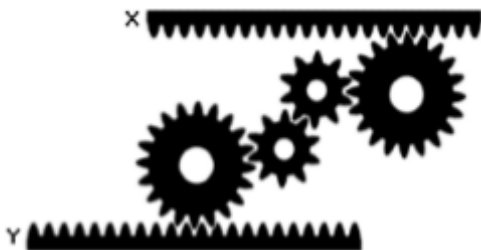
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23. If gear X turns in an anti-clockwise direction, in which direction does gear Y turn?



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24. If bar Y moves left at a constant speed, in which direction and speed does bar X move?



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# Practice Aptitude QUIZ

## Computers

25. Circle which file extension would be used for an image file?

- a. .pdf
- b. .docx
- c. .jpg
- d. .xlsx

26. How many 500 MB files can be stored on a hard drive with a capacity of 2 gigabytes?  
\_\_\_\_\_

27. Which size image file would be suitable for emailing? Circle the correct answer.

150 k

2g b

28. List two ways to transfer files from one computer to another.  
\_\_\_\_\_  
\_\_\_\_\_

29. Which of the following are internet browsers? Circle the correct answer/s.

YouTube

Facebook

Firefox

Explorer

Google

Twitter





# Practice Aptitude QUIZ

## Answers

### Section 1 - Literacy, Reading and Comprehension

1. Computer to Plate  
Folding  
Graphic Pre Press  
Ink  
Kerning  
Lithography  
Printing  
Print finisher  
Screen Printing  
Software
2. Graphic, personnel, prepare, traditional, board, combination, machinery, diverse, format, substrates
3.
  - a. tin, lead, antimony
  - b. melted at low temperature, excellent for die casting, durable in the printing press
  - c. The Gutenberg bible
  - d. Earl Stanhope
  - e. Digital has no 'pre press' operation, digital has specific ink systems unique to each machine.
4.
  - a. So you do not have to reach out.
  - b. i. No. The person is reaching out and lifting without bending their knees.  
ii. No. The person does not have a straight back and is not bending with their knees.
  - c. Speak to your supervisor immediately for assistance.
5.
  - a. Goggles and Face Shield
  - b. Foot protection
  - c. Breathing mask and Gloves
  - d. Hearing protection

### Section 2 - Mathematics

1. a. 35.3 mm    b. 39.3 cm    c. 0.464 m    d. 1700 g    e. 0.0296kg    f. 0.256 litres
2. a. 27.96    b. 43.64    c. 430    d. 200
3. a. 0.445    b. 221.285    c. 3,295
4. a. 77.6    b. 179.7    c. 256.78
5. percentage 76%    decimal no. 34.37    fraction  $\frac{1}{4}$     ratio 3:1    angle  $45^\circ$
6. a. 1,057    b. 6,785    c. 27,003



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7. a. \$25.60      b. 2.88      c. 2,052      d. 150
8. a. 24    b. 6
9. \$1,086.75
10. 12%
11. a. 10%      b. 90%
12. 10,000
13. 3:2
14. 941 parts yellow, 59 parts black
15. 4:5
16. 12
17. a. \$1,140      b. \$180      c. \$1,320
18. 22,750
19. \$6.60
20. a. \$6,250      b. \$2,884.61
21. a. 4,200      b. 4,800
22. anti-clockwise
23. clockwise
24. left, same speed as Y
25. c. .jpg
26. 4
27. a. (150k)
28. cd, dvd, memory stick, email, external hard drive, Drop Box, Cloud
29. Firefox, Explorer



# Practice Aptitude QUIZ

This Practice Aptitude Quiz was developed by



**Australian Apprenticeships and Traineeship Information Service**, which delivers the [Australian Apprenticeship Pathways](#) website, [MyGain](#) (YouTube channel) and [AusAppPathways](#) – Mobile App. The service provides sample Australian Apprenticeships job descriptions and links to more Australian Apprenticeships information and resources. The service is funded by the Australian Government, Department of Education and Training.



**The Australian Centre for Career Education** - [www.ceav.vic.edu.au](http://www.ceav.vic.edu.au)

The Australian Centre for Career Education is a state based peak association for career practitioners working in a range of educational settings. The ACCE provides membership, training and professional development aligned to the national standards for career practitioners. It also provides careers counselling to the general public and consultancy to industry and governments.

**For enquiries about this Practice Aptitude Quiz, contact  
The Australian Apprenticeships and Traineeships Information Service on  
1800 338 022**