



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.

Printing

Practice Aptitude Quiz

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Part 1: About this quiz

Use this quiz to prepare for an Apprenticeship in Printing

This quiz:

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

Quiz details

This quiz will:

- Take approximately 60 minutes to complete
- Ask you numeracy and literacy questions specific to the Printing industry
- Assess your literacy and numeracy at a Year 10 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 Printing
- 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 Printing industry

Visit www.yourcareer.gov.au/industries/j/information-media-and-telecommunications

On this page you'll be able to:

- See the most popular Printing occupations
- Get general information and statistics about the industry
- Search for Printing 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

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Part 2: The Quiz

Section 1: Language and Literacy

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 boarrd. Print finishers can use a combinnation of machinnery and hand techniques to finish a diverrse 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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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?

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Answer the following questions:

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

- b. What were the alloy's main advantages?

- c. What was Gutenberg's most famous project?

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

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

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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 lifting 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: |
| <ul style="list-style-type: none">• 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 task that 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?

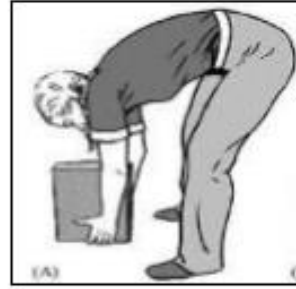
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- b. Are the people in the pictures lifting safely according to the procedures?
Why or why not (explain below)?

i.



ii.



i.

ii.

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

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5. Read the following information 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 |

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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)
- 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?
- 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?
- 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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Section 2: Numeracy

Calculators may be used

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

2. Round the following 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

3. Divide the following:

a. 4.45 by 10

b. 3,098 by 14

c. 65.9 by .02

4. Multiply the following:

a. 7.76 by 10

b. 59.9 by 3

c. 34.7 by 7.4

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

$\frac{1}{4}$

45°

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.

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 \$1050 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?

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11. In an order of 1500 business cards, 150 have been found to be below standard.

What percentage were:

a. Below standard

b. At the required standard

12. In an order of 25000 books, 40% need to be delivered in 3 days. How many books are required?

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?

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?

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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 6500 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 \$75000. 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. _____

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Section 3: General Knowledge

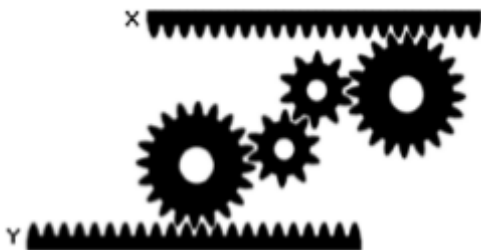
1. If gear X turns in a clockwise direction, in which direction does gear Y turn?



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



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



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4. Select which file extension would be used for an image file?

.pdf

.docx

.jpg

.xlsx

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

6. Which size image file would be suitable for emailing? Select the correct answer.

150kb

2gb

7. List two ways to transfer files from one computer to another:

8. Which of the following are internet browsers? Select the correct answer/s.

YouTube

Facebook

Firefox

Explorer

Google

Twitter

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ANSWERS

Section 1: Language and Literacy

1. Computer to plate
Folding
Graphic pre press
Ink
Kerning
Lithography
Print finisher
Printing
Screen printing
Software
2. Graphic, personnel, prepare, traditional, board, combination, machinery, diverse, format, substrates
3. a. Tin, lead, antimony
b. It 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: Numeracy

1. a. 35.3 mm b. 39.3 cm c. 4.64 m d. 1700 g e. 0.0296 kg f. 0.256 litres
2. a. 27.96 b. 43.64 c. 430 d. 200
3. a. 0.445 b. 221.286 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°
6. a. 1057 b. 6785 c. 27003

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7. a. \$25.60 b. 2.88 c. 2052 d. 150
8. a. 24 b. 6
9. \$1086.75
10. 12%
11. a. 10% b. 90%
12. 10000
13. 3:2
14. 941 parts yellow, 59 parts black
15. 4:5
16. 12
17. a. \$1140 b. \$180 c. \$1320
18. 22750
19. \$6.60
20. a. \$6250 b. \$2884.62
21. a. 4200 b. 4800

Section 3: General Knowledge

1. Anti-clockwise
2. Clockwise
3. Left, same speed as Y
4. .jpg
5. 4
6. 150kb
7. cd, dvd, memory stick, email, external hard drive, Drop Box, Cloud
8. Firefox, Explorer