Self-directed Clarifying Activity – Assessment Type 1: Skills and Applications Tasks – Percentage Assessment

Purpose: The purpose of this activity is to support teachers to interpret and apply performance standards consistently to students' work in Stage 1 Numeracy for Work and Community Life.

1. **Please use the following Stage 1 Numeracy for Work and Community Life performance standards to determine a grade for the student work sample on pages 8 – 10.**

   Please note: grades are determined by considering whether evidence of learning demonstrates the specific features predominantly within a particular grade e.g. a B grade level work sample should demonstrate assessment design criteria specific features predominantly at the B grade band.

2. **Record your assessment decision by holding the 'Ctrl' key and clicking here.**

   Please note: recording an assessment decision will prompt your computer to download an annotated version of the student response.

3. **Use the annotated performance standards and student work sample to compare your interpretation of the performance standards and recalibrate your assessment decision (if necessary).**

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Performance Standards for Stage 1 Numeracy for Work and Community Life

	Knowledge and Understanding	Application	Communication
A	Knowledge and understanding of key mathematical information in a range of familiar and unfamiliar everyday contexts. Knowledge and understanding of a range of numeracy skills and strategies required to complete tasks in familiar and unfamiliar everyday contexts.	Gathering, representation, analysis, and interpretation of data with a high degree of accuracy to find solutions to questions set in a variety of everyday contexts. Selection and application of a range of mathematical concepts, processes, and strategies to find solutions to a range of questions set in familiar and unfamiliar contexts. Discerning use of a range of technologies to access, interpret, and communicate data and information highly effectively. Use of initiative in working effectively, individually and/or in groups, to plan, organise, and carry out tasks.	Effective use of notation and other appropriate language and representations to communicate mathematical processes and results coherently and completely.
B	Knowledge and understanding of key mathematical information in a range of familiar and some unfamiliar everyday contexts. Knowledge and understanding of a range of numeracy skills and strategies required to complete tasks in familiar and some unfamiliar everyday contexts.	Gathering, representation, analysis, and interpretation of data with accuracy to find solutions to questions set in a variety of everyday contexts. Selection and application of appropriate mathematical concepts, processes, and strategies to find solutions to questions set in familiar and some unfamiliar contexts. Use of a range of technologies to access, interpret, and communicate data and information effectively. Use of some initiative in working effectively, individually and/or in groups, to plan, organise, and carry out tasks.	Use of notation and other appropriate language and representations to communicate mathematical processes and results clearly and with some detail.
C	Knowledge and understanding of simple mathematical information in familiar everyday contexts (e.g. comprehends familiar mathematical information embedded in routine texts or stimuli). Knowledge and understanding of some numeracy skills and strategies required to complete tasks in familiar everyday contexts (e.g. uses a combination of 'in-the-head' methods, pen and paper, and calculator or technological processes to solve problems).	Gathering, representation, analysis, and interpretation of data with some accuracy to find solutions to questions set in a variety of everyday contexts (e.g. interprets and uses whole numbers, routine fractions, decimal fractions, and percentages in a range of familiar or routine contexts). Selection and application of some mathematical concepts, processes, and strategies to find solutions to questions set in routine and familiar contexts (e.g. selects appropriate methods of solution from a limited range of mathematical processes). Use of technologies to access, interpret, and communicate data and information with some effectiveness (e.g. uses information and communication technologies, with some appreciation of the strengths and limitations of different programs and applications in specific contexts). Use of effective work, undertaken individually and/or in groups, to plan, organise, and carry out tasks.	Use of familiar language and representations to communicate mathematical processes and results clearly (e.g. uses symbolism, graphs, and diagrams relevant to the mathematical knowledge of the level such as routine and familiar tables, graphs, and maps; uses a combination of both informal and formal written mathematical and general language and representations to report processes and results).
D	Location of some mathematical information in a narrow range of highly familiar everyday contexts. Some knowledge and understanding of a narrow range of numeracy skills and strategies required to complete a task or tasks in an everyday context.	Gathering and representation of data with some accuracy to attempt to find solutions to questions set in everyday contexts. Selection and application of one or more mathematical processes to find solutions to some questions set in highly familiar contexts. Use of one or more technologies to access or communicate information. Undertaking of some individual work and a limited contribution to group work in carrying out tasks.	Use of a narrow range of notation and other basic representations to communicate simple mathematical processes, in mostly simplistic language.
E	Location of limited mathematical information in a familiar everyday context. Identification of a numeracy skill or strategy required to complete an aspect of a task.	Gathering of limited data with some attempted representation. Use of a simple mathematical process to attempt to find a solution to a question set in a highly familiar context. Use of one form of technology under supervision to identify information. Individual work with some assistance.	Use of one or more representations to communicate an aspect of a mathematical process, with frequent inaccuracies of notation and vocabulary.

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Year 11 SACE Stage 1 Numeracy Unit 2 – Percentage

Percentage Assessment

Skills and Application Task

NAME: _____

Purpose

You need to show that you can use the mathematical concepts, processes and strategies that you have learned in class to solve a range of problems.

Description of Assessment

This task has a range of questions where you can show your skills in understanding and use of appropriate mathematical concepts, processes and strategies in the following numeracy areas:

(1) using a range of number skills involving whole numbers and percentages
(2) interpreting and using mathematical information and terminology
(3) using appropriate numeracy skills to solve problems in different contexts
(4) reading mathematical information from tables

Use your knowledge and understanding of percentage and mathematical skills to work out the answers to the questions in this task.

Assessment conditions

This task is to be completed during lesson time.
Remember to show your working for all calculations during the task.
You are able to use a calculator.

approx Due Date -

Stage 1 Numeracy Assessment Criteria for Percentage Unit

Learning Requirements	Assessment Design Criteria	Capabilities
1. understand and apply mathematical concepts, processes and strategies in a variety of workplace and community contexts 2. develop skills in gathering, representing, analysing and interpreting data relevant to everyday situations 3. use numeracy skills to investigate and solve practical problems in familiar and unfamiliar everyday contexts 4. communicate mathematical processes and results using appropriate language, notation and representations 5. use appropriate technologies to access, interpret and communicate data and information 6. work individually and/or in groups to plan, organise and carry out tasks.	**Knowledge and Understanding** KU1 - Knowledge and understanding of mathematical information in everyday contexts KU2 - Knowledge and understanding of numeracy skills and strategies applicable to a variety of everyday contexts **Application** A1 - Gathering, representation, analysis and interpretation of data A2 - Selection and application of mathematical concepts, processes and strategies to solve problems A3 - Use of technologies to access, interpret and communicate data and information A4 - Work individually and/or in groups to plan, organise and carry out tasks **Communication** C1 - Use of appropriate language, notation and representations to communicate mathematical processes and results.	Communication Citizenship Personal Development Work Learning

Hand up this Cover Sheet with your assessment tasks

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Year 11 SACE Stage 1 Numeracy Unit 2 – Percentage

Percentage Assessment - Skills Test

NAME: _____

S1-Understanding Percent

1. What do the following Percentages equal?

a) 49%

b) 8%

c) 25.6%

d) 451%

e) 0.08%

S2 - Converting Percent

2. Convert the following TO a percent.

a) 7.52

b) 0.09

c) $\frac{5}{8}$

d) $\frac{341}{205}$

e) $\frac{14}{647}$

S3 - Calculating Percent

3. Calculate the following. **Show working.**

a) 80% of 54

b) 17.5% of 685 m

c) 81.3% of 2'678 people

d) 435% of $24.00

e) 0.8% of $2'985.46

S4 - Changing Percent

4. Calculate the following. **Show working.**

a) 35% increase of 385

b) 6% decrease of 756 metres

c) 24.8% increase $762.39

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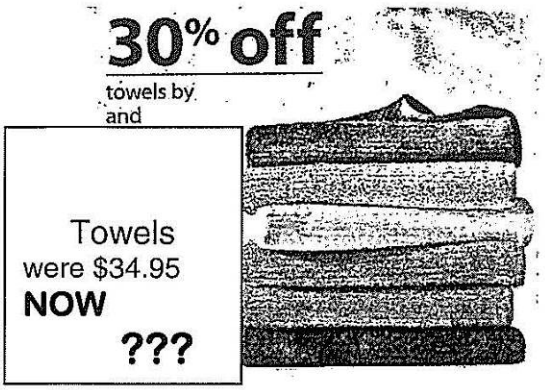
Year 11 SACE Stage 1 Numeracy Unit 2 – Percentage

Percentage Assessment - Application Task

NAME: _____

REMEMBER to show ALL your calculations.

1. Sales and Discount



a) What is the Discount on the Towels? **Show working.**

b) What is the Sale Price of the Towels?

2. Profit and Loss

At a Garage Sale, Frank bought an old cupboard for $25. If he does it up then sells it for **80% more**, does he make a Profit or a Loss?.....

b) How much is it? **Show working.**

c) What did he sell it for? **Show working.**

3. Tax and Superannuation

Rita worked for two weeks at $745 per week.

a) How much did she earn? **Show working.**

b) If her tax rate was 42%, how much tax did she have to pay? **Show working.**

c) How much pay did she actually receive?

d) If her employer pays superannuation of 7% on Earnings, how much is this?

e) If her employer also pays Workcover at the rate of 0.7%, how much is this?

4. Wages and Commission

Which is the better Pay Deal on sales worth $318'500?

A. Salary of $1145 plus 0.68% commission
OR
B. 1.02% commission only.

Remember to show working.

Which is the better deal - A or B? ____

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5. Changing Value

Work out the value of a $312'000 house after 5 years if it appreciates by 7.2% each year?

a) What is the Percentage Multiplier?

b) **Draw up** and complete an Appreciation Table in the space below.

c) How much value did the house gain over the 5 years? **Show working.**

6. Loans and Interest

a) Calculate the Interest on a $17'500 loan borrowed at an Interest Rate of 7.95%pa for 7 years. **Show working.**

b) What is the Total Amount that has to be paid back? **Show working.**

c) How many months does this loan run for? **Show working.**

d) What are the monthly repayments on this loan? **Show working.**

7. Challenge 1. The label on a 650 mL Fruit Drink says that 5% is Fruit Concentrate and the rest is water.
How many mL of <u>water</u> are in the Fruit Drink?

8. Challenge 2. The sign in a Bulk Buy Store shows the following Discounts

Bulk Buy Discount Deals		
BUY 0-10	BUY 11-25	BUY 25+
PAY NORMAL PRICE	GET 10% DISCOUNT	GET 12% DISCOUNT

a) How much would you pay if you bought 32 items for $4.45 each?

b) How much change out of $200 cash?

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Student Work Sample

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Year 11 SACE Stage 1 Numeracy — Unit 2 – Percentage

Percentage Assessment - Skills Test

NAME: _____

S1-Understanding Percent

1. What do the following Percentages equal?

a) 49% $\frac{49}{100} = 0.49$ ✓

b) 8% 0.08 ✓

c) 25.6% 0.256 ✓

d) 451% 4.51 ✓

e) 0.08% 0.0008 ✓

S2 - Converting Percent

2. Convert the following TO a percent.

a) 7.52 752% ✓

b) 0.09 9% ✓

c) $\frac{5}{8}$ 62.5% ✓

d) $\frac{341}{205}$ 166.3% ✓

e) $\frac{14}{647}$ 2.16% ✓

S3 - Calculating Percent

3. Calculate the following. **Show working.**

a) 80% of 54

$= \frac{80}{100} \times \frac{54}{1}$ ✓

$= 43.2$ ✓

b) 17.5% of 685 m

$\frac{17.5}{100} \times \frac{685}{1}$ ✓

$= 119.9$ m ✓

c) 81.3% of 2 678 people

$\frac{81.3}{100} \times \frac{2678}{1} = 2177.2$ ✓

x

no units

d) 435% of $24.00

$\frac{435}{100} \times \frac{24}{1} = 104.4$ ✓

x no units

e) 0.8% of $2 985.46

$\frac{0.8}{100} \times \frac{2985.46}{1} = \$23.88$ ✓

S4 - Changing Percent

4. Calculate the following. **Show working.**

a) 35% increase of 385

$100 + 35 = \frac{135}{100} \times 385$

519.75 ✓

b) 6% decrease of 756 metres

$\frac{106}{100} \times 756$ x

$= 801.36$ m x

c) 24.8% increase $762.39

$\frac{124.8}{100} \times 762.39$ ✓

$= 945.3$ x

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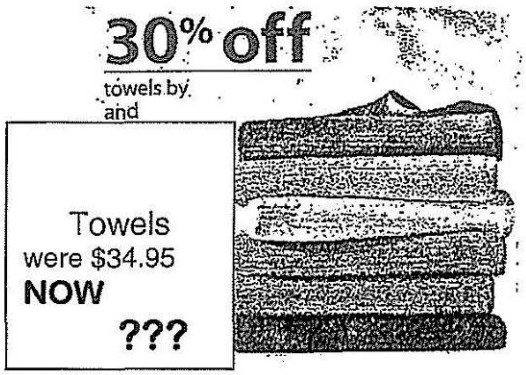
Year 11 SACE Stage 1 Numeracy Unit 2 – Percentage

Percentage Assessment - Application Task

NAME: _____

REMEMBER to show ALL your calculations.

1. Sales and Discount



a) What is the Discount on the Towels? **Show working.**

$\frac{30}{100} \times 34.95 = \$10.49$ ✓ ✓

b) What is the Sale Price of the Towels?

$\$34.95 - 10.49 = 24.46$ ✓ ✓

2. Profit and Loss

At a Garage Sale, Frank bought an old cupboard for $25. If he does it up then sells it for **80% more**, does he make a Profit or a Loss?..... Profit

b) How much is it? **Show working.**

$\frac{80}{100} \times 25 = \$20$ ✓

c) What did he sell it for? **Show working.**

$25 + 20 = \$45$ ✓

3. Tax and Superannuation

Rita worked for two weeks at $745 per week.

a) How much did she earn? **Show working.**

$\$745 \times 2 = \$1490$ ✓ ✓

b) If her tax rate was 42%, how much tax did she have to pay? **Show working.**

$42\% \times 1490 = \cancel{62,580}$ ✓

625.80 ✓

c) How much pay did she actually receive?

$1490 + 625.80 = 864.20$ ✓ ✓

d) If her employer pays superannuation of 7% on Earnings, how much is this?

$\frac{7}{100} \times 864.20 = 60.494$ ✓ X

e) If her employer also pays Workcover at the rate of 0.7%, how much is this?

$\frac{1}{10} \times 60.494$ X

$= 6.494$ X

4. Wages and Commission

Which is the better Pay Deal on sales worth $318 500?

A. Salary of $1145 plus 0.68% commission
OR
B. 1.02% commission only.

Remember to show working.

A. $1145 + \frac{.68}{100} \times 318500$ ✓

$= 1145$ ✓ $+ 216580$ X

$= 217725$ X

B. $\frac{1.02}{100} \times 318500$ ✓

$= 32487.0$ Y

Which is the better deal - A or B? ____

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5. Changing Value

Work out the value of a $312 000 house after 5 years if it appreciates by 7.2% each year?

a) What is the Percentage Multiplier?

b) **Draw up** and complete an Appreciation Table in the space below.

c) How much value did the house gain over the 5 years? **Show working.**

6. Loans and Interest

a) Calculate the Interest on a $17 500 loan borrowed at an Interest Rate of 7.95%pa for 7 years. **Show working.**

$\frac{7.95}{100} \times 17500 = 1391.25$ ✓

$\times 7 = \$9738.75$ ✓

b) What is the Total Amount that has to be paid back? **Show working.**

$\$9738.75 + \$17500$

$= \$27238.75$

c) How many months does this loan run for? **Show working.**

$7 \times 12 = 84$

d) What are the monthly repayments on this loan? **Show working.**

$27238.75 \div 7$

$=$

7. Challenge 1. The label on a 650 mL Fruit Drink says that 5% is Fruit Concentrate and the rest is water.
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