

High School Mathematics Test 2015

Year 9

Basic Number Skills

Non Calculator

Skills and Knowledge Assessed:

- Carry out the four operations with rational numbers and integers, using efficient mental and written strategies and appropriate digital technologies (ACMNA183)
- Investigate terminating and recurring decimals (ACMNA184)
- Solve problems involving the use of percentages, including percentage increases and decreases, with and without digital technologies (ACMNA187)

Name _____

Section 1 Short Answer Section

Write all working and answers in the spaces provided on this test paper.

1. $213 \times 3 = ?$

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.....

2. $158 + 357 + 1\,258 = ?$

.....
.....

3. $-6 \times (-7) =$

.....

4. $-12 - 15 =$

.....

5. $\frac{1}{2} \times \frac{3}{5} = ?$

.....

6. What is 20% of 350?

.....
.....

7.	What is $\frac{12}{18}$ in simplest form?
8.	A bus is carrying 40 passengers and 25 of these are children. What fraction of the passengers are children?
9.	$0.624 \times 8 = ?$
10.	$\frac{-25 - 35}{-5} = ?$
11.	$\frac{3}{5} + \frac{1}{4} = ?$
12.	$0.28 \times 0.7 = ?$
13.	What percentage is 27 of 36?

14. $15 + 6 \times 4 - 10 = ?$

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15. $\frac{9}{10} - \frac{7}{20} = ?$

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.....

16. $2.45 \div 5 =$

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.....

17. What is 0.265 when written as a fraction in simplest form?

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.....

18. What is $\frac{5}{12}$ of 84?

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19. A car which has travelled 240 km, has completed 60% of its journey.
How far does it still have to go?

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.....

20. Given that $58^2 = 3\,364$ and $18^3 = 5832$, what is the value of $2 \times \sqrt{3\,364} + \sqrt[3]{5\,832}$?

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21. $\frac{2}{5} \div \frac{5}{12} = ?$

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22. $2\frac{3}{5} + 1\frac{3}{8} = ?$

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23. Increase 25 litres by 8%.

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24. $\frac{\sqrt{36} \times \sqrt[3]{8}}{2^2 \times \sqrt{9}} = ?$

.....

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High School Mathematics Test 2015

Calculator Allowed

Year 9

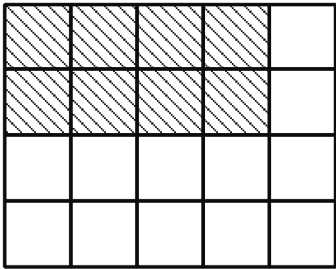
Basic Number Skills

Name _____

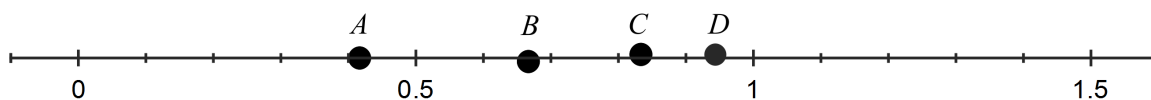
Section 2 Multiple Choice Section

Mark all your answers on the accompanying multiple choice answer sheet, not on this test paper. You may do any working out on this test paper. Calculators are allowed for this section.

1.	What is the value of the 6 digit in the decimal number 72.5064? A. ten thousandths B. thousandths C. hundredths D. tenths
2.	Which is the largest? A. $\frac{13}{20}$ B. $\frac{27}{40}$ C. $\frac{7}{10}$ D. $\frac{5}{8}$
3.	What is 0.45 when written as a fraction in simplest form? A. $\frac{7}{20}$ B. $\frac{2}{5}$ C. $\frac{9}{20}$ D. $\frac{9}{50}$
4.	Which fraction is not equivalent to $\frac{5}{8}$? A. $\frac{7}{15}$ B. $\frac{10}{16}$ C. $\frac{15}{24}$ D. $\frac{20}{32}$
5.	What is a quarter of 2.5 litres? A. 0.5 litres B. 0.525 litres C. 0.6 litres D. 0.625 litres
6.	What decimal number is the same as 65%? A. 0.065 B. 0.65 C. 6.5 D. 65
7.	32.5% of the contents of a bottle of fruit-drink is fruit juice. What percentage of the contents is not fruit juice? A. 7.5% B. 17.5% C. 65.0 % D. 67.5%
8.	Write the fraction $\frac{17}{25}$ as a percentage. A. 68% B. 72% C. 85% D. 94%

9.	<p>There are 250 males and 150 females in a crowd.</p> <p>What percentage of the crowd is female?</p> <p>A. 30% B. 37.5% C. 60% D. 62.5 %</p>
10.	<p>Evaluate $-48 \div (-11 + 5) \div -4$.</p> <p>A. -2 B. $-\frac{3}{4}$ C. $\frac{3}{4}$ D. 2</p>
11.	<p>Which number indicates the part of the figure which is shaded?</p> <div style="display: flex; align-items: center;"> <div style="margin-right: 20px;"> <p>A. 0.6</p> <p>B. $\frac{2}{3}$</p> <p>C. $\frac{4}{5}$</p> <p>D. 40%</p> </div>  </div>
12.	<p>Which set of fractions is in ascending order?</p> <p>A. $\frac{1}{50}, \frac{1}{20}, \frac{1}{10}, \frac{1}{8}$ B. $\frac{1}{8}, \frac{1}{10}, \frac{1}{20}, \frac{1}{50}$</p> <p>C. $\frac{1}{20}, \frac{1}{50}, \frac{1}{8}, \frac{1}{10}$ D. $\frac{1}{10}, \frac{1}{20}, \frac{1}{50}, \frac{1}{8}$</p>
13.	<p>In a golf competition a leader board records positive or negative scores for above and below par for each hole.</p> <p>Jason scored -1 on three holes, -2 on two holes, -3 on one hole and zero on every other hole in nine holes of a golf competition.</p> <p>What is his score on the leader board for the nine holes?</p> <p>A. -12 B. -11 C. -10 D. -9</p>
14.	<p>$\frac{7}{16} = ?$</p> <p>A. $43\frac{3}{4}\%$ B. $47\frac{1}{2}\%$ C. $70\frac{1}{6}\%$ D. $87\frac{1}{2}\%$</p>
15.	<p>A store buys shirts for \$25 and sells them at a profit of 28%.</p> <p>What is the selling price?</p> <p>A. \$32.00 B. \$35.00 C. \$42.00 D. \$53.00</p>

16. Which of the points represent the position of $\frac{5}{6}$ on the number line?



- A. Point *A* B. Point *B* C. Point *C* D. Point *D*

17. Decrease 12.5 kg by 20%.

- A. 8.0 kg B. 10.0 kg C. 10.5 kg D. 15.0 kg

18. Which statement is **NOT** true?

- A. $0.45 = \frac{9}{20}$ B. $0.45 < \frac{1}{2}$ C. $0.45 > 40\%$ D. $0.45 \neq \frac{36}{80}$

19. Re-write this list in ascending order.

0.73 , $\frac{18}{25}$, 75% , $\frac{37}{50}$.

- A. 0.73 , $\frac{18}{25}$, 75% , $\frac{37}{50}$. B. 75% , $\frac{37}{50}$, 0.73 , $\frac{18}{25}$.
 C. $\frac{37}{50}$, 0.73 , $\frac{18}{25}$, 75% . D. $\frac{18}{25}$, 0.73 , $\frac{37}{50}$, 75% .

20. What is $\frac{5}{12}$ when written as a decimal?

- A. $0.4\dot{1}$ B. $0.41\dot{6}$ C. $0.4\dot{6}$ D. $0.51\dot{2}$

21. Tegan uses $\frac{5}{8}$ of her allowance to pay for a download subscription which cost \$25.00.

How much of her allowance does she have left?

- A. \$5.00 B. \$10.00 C. \$15.00 D. \$40.00

22. Which fraction can be written as $0.\dot{7}\dot{2}$.

- A. $\frac{7}{12}$ B. $\frac{7}{11}$ C. $\frac{8}{12}$ D. $\frac{8}{11}$

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23. Martha buys a present at a sale which has all stock discounted by 30%. She receives a further 5% discount off the sale price, as she is a staff member. If the present was originally priced at \$150, what did she pay for it?
- A. \$97.50 B. \$99.75 C. \$105.00 D. \$115.00
-
24. Louanne's Grandma shares an amount of money between her three grandchildren. She tells Louanne that Jayden got 40% of the total and Madeline got $\frac{5}{12}$ of what remained. This left \$140 for Louanne. How much did the others receive?
- A. Jayden received \$84 and Madeline received \$56.
B. Jayden received \$112 and Madeline received \$98.
C. Jayden received \$160 and Madeline received \$100.
D. Jayden received \$196 and Madeline received \$78.40.
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High School Mathematics Test 2015

Multiple Choice Answer Sheet

Basic Number Skills

Name _____

Completely fill the response oval representing the most correct answer.

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|-----|---|-----------------------|---|-----------------------|---|-----------------------|---|-----------------------|
| 1. | A | <input type="radio"/> | B | <input type="radio"/> | C | <input type="radio"/> | D | <input type="radio"/> |
| 2. | A | <input type="radio"/> | B | <input type="radio"/> | C | <input type="radio"/> | D | <input type="radio"/> |
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| 4. | A | <input type="radio"/> | B | <input type="radio"/> | C | <input type="radio"/> | D | <input type="radio"/> |
| 5. | A | <input type="radio"/> | B | <input type="radio"/> | C | <input type="radio"/> | D | <input type="radio"/> |
| 6. | A | <input type="radio"/> | B | <input type="radio"/> | C | <input type="radio"/> | D | <input type="radio"/> |
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| 10. | A | <input type="radio"/> | B | <input type="radio"/> | C | <input type="radio"/> | D | <input type="radio"/> |
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| 24. | A | <input type="radio"/> | B | <input type="radio"/> | C | <input type="radio"/> | D | <input type="radio"/> |

High School Mathematics Test 2015

Year 9

Basic Number Skills

Non Calculator

Section 1 Short Answer Section

ANSWERS

No.	WORKING	ANSWER
1.	$213 \times 3 = 639$	639
2.	$\begin{array}{r} 158 + \\ 357 \\ 1\,258 \\ \hline 1\,773 \end{array}$	1 773
3.	$-6 \times (-7) = 42$	42 or +42
4.	$-12 - 15 = -27$	-27
5.	$\frac{1}{2} \times \frac{3}{5} = \frac{3}{10}$	$\frac{3}{10}$
6.	$\begin{aligned} 20\% \text{ of } 350 &= \frac{20}{100} \times 350 \\ &= \frac{1}{5} \times 350 \\ &= 70 \end{aligned}$	70
7.	$\frac{12}{18} = \frac{2}{3}$	$\frac{2}{3}$
8.	$\frac{25}{40} = \frac{5}{8}$ of the passengers are children	$\frac{5}{8}$
9.	$\begin{array}{r} 0.624 \\ \times 8 \\ \hline 4.992 \end{array}$	4.992
10.	$\frac{-25 - 35}{-5} = \frac{-60}{-5} = 12$	12

11.	$\frac{3}{5} + \frac{1}{4} = \frac{12}{20} + \frac{5}{20} = \frac{17}{20}$	$\frac{17}{20}$
12.	$\begin{array}{r} 0.28 \times \\ \underline{0.7} \\ 0.196 \end{array}$	0.196
13.	$\frac{27}{36} \times \frac{100}{1} = \frac{3}{4} \times \frac{100}{1} = \frac{300}{4} = 75\%$	75%
14.	$\begin{aligned} 15 + 6 \times 4 - 10 &= 15 + 24 - 10 \\ &= 39 - 10 \\ &= 29 \end{aligned}$	29
15.	$\begin{aligned} \frac{9}{10} - \frac{7}{20} &= \frac{18}{20} - \frac{7}{20} \\ &= \frac{11}{20} \end{aligned}$	$\frac{11}{20}$
16.	$\begin{array}{r} 0.49 \\ 5 \overline{)2.45} \end{array}$	0.49
17.	$0.265 = \frac{265}{1000} = \frac{53}{200}$	$\frac{53}{200}$
18.	What is $\frac{5}{12}$ of 84 = $\frac{5}{\cancel{12}} \times \frac{(\cancel{84})^7}{1} = 35$	35
19.	60% of journey = 240 km 10% of journey = $240 \div 6 = 40$ km Remaining journey = 40% of journey = $40 \times 4 = 160$ km	160 km
20.	$\begin{aligned} 2 \times \sqrt{3\,364} + \sqrt[3]{5\,832} &= 2 \times 58 + 18 \\ &= 116 + 18 \\ &= 134 \end{aligned}$	134
21.	$\frac{2}{5} \div \frac{5}{12} = \frac{2}{5} \times \frac{12}{5} = \frac{24}{25}$	$\frac{24}{25}$

22.	$\begin{aligned}2\frac{3}{5} + 1\frac{3}{8} &= 3 + \frac{24}{40} + \frac{15}{40} \\&= 3 + \frac{39}{40} \\&= 3\frac{39}{40}\end{aligned}$	$3\frac{39}{40}$
23.	$\begin{aligned}\text{Increase 25 litres by 8\%} &= \frac{108}{100} \times \frac{25}{1} \\&= \frac{108}{4} \\&= 27 \text{ litres}\end{aligned}$	27 litres
24.	$\frac{\sqrt{36} \times \sqrt[3]{8}}{2^2 \times \sqrt{9}} = \frac{6 \times 2}{4 \times 3} = \frac{12}{12} = 1$	1

High School Mathematics Test 2015

Year 9 *Basic Number Skills*

Calculator Allowed

Section 2 Multiple Choice Section

ANSWERS

No.	WORKING	ANSWER
1.	The third decimal place is thousandths	B
2.	A. $\frac{13}{20} = \frac{26}{40}$ B. $\frac{27}{40}$ C. $\frac{7}{10} = \frac{28}{40}$ D. $\frac{5}{8} = \frac{25}{40}$	C
3.	$0.45 = \frac{45}{100} = \frac{9}{20}$	C
4.	$\frac{5}{8} = \frac{10}{16} = \frac{15}{24} = \frac{20}{32} \neq \frac{7}{15}$	A
5.	$2.5 \div 4 = 0.625$ litres	D
6.	$65\% = 65 \div 100 = 0.65$	B
7.	Percentage not juice = $100\% - \text{percentage which is juice}$ $= 100 - 32.5$ $= 67.5\%$	D
8.	$\frac{17}{25} \times 100 = 17 \times 4 = 68\%$	A
9.	There are $150 + 250 = 400$ altogether. Percentage female = $\frac{150}{400} \times 100 = 37.5\%$	B
10.	$-48 \div (-11 + 5) \div -4 = -48 \div -6 \div -4$ $= 8 \div -4$ $= -2$	A
11.	8 parts are shaded out of 20 Fraction shaded = $\frac{8}{20} = \frac{2}{5} = 40\%$	D

12.	As all have 1 as numerator, the larger denominators are the smaller fractions. So in ascending order they are $\frac{1}{50}, \frac{1}{20}, \frac{1}{10}, \frac{1}{8}$	A
13.	$-1 \times 3 + -2 \times 2 + -3 + 0 \times 3 = -3 + -4 + -3 + 0$ $= -10$	C
14.	$\frac{7}{16} = \frac{7}{16} \times 100 = 43.75\%$ $= 43\frac{3}{4}\%$	A
15.	Profit = 28% of 25 $= \frac{28}{100} \times 25$ $= \$7$ Selling price = $25 + 7 = \$32$	A
16.	$\frac{5}{6} = 5 \div 6 = 0.8\dot{3}$ So point C shows this.	C
17.	Decrease 12.5 kg by 20% = $12.5 \times 0.8 = 10$ kg	B
18.	$0.45 = \frac{9}{20}$, so B and C are also true, but $\frac{36}{80} = \frac{9}{20}$ so D is not true.	D
19.	$0.73, \frac{18}{25} = 0.72, 75\% = 0.75, \frac{37}{50} = 0.74$. So in ascending order $0.72, 0.73, 0.74, 0.75$ $\frac{18}{25}, 0.73, \frac{37}{50}, 75\%$	D
20.	$\frac{5}{12} = 5 \div 12 = 0.4166666 = 0.41\dot{6}$	B

21.	$\frac{5}{8}$ of allowance = \$25 $\frac{1}{8}$ of allowance = $25 \div 5 = \$5$ remainder = $\frac{3}{8}$ of allowance = $3 \times 5 = \$15$	C
22.	$\frac{8}{11} = 8 \div 11 = 0.727272\dots = 0.\overline{72}$	D
23.	Price after first discount = 70% of 150 = \$105 Price after 2nd discount = 95% of 105 = \$99.75	B
24.	Jayden gets 40% of total, so this leaves 60%. Madeline gets $\frac{5}{12}$ of 60% = 25%. This leaves $100 - (40+25) = 35\%$ for Louanne who receives \$140. Since $35\% = 140$ $1\% = 140 \div 35 = \$4$. Jayden gets 40%, so $40 \times 4 = \$160$ Madeline gets 25% so $25 \times 4 = \$100$	C

High School Mathematics Test 2015

Multiple Choice Answer Sheet

Basic Number Skills

Name _____

Completely fill the response oval representing the most correct answer.

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|-----|---|----------------------------------|---|----------------------------------|---|----------------------------------|---|----------------------------------|
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