

Key

Math 8

Mock Final

Multiple Choice

Identify the choice that best completes the statement or answers the question.

1. Solve $\frac{35}{21} = \frac{x}{27}$

- b a. 41 **b. 45** c. 36 d. 49

2. Solve $\frac{10.5 \div 3}{x} = \frac{3}{5}$

- a. 3.5 b. 15.5 **c. 17.5** d. 6.3

Answer questions #3 – 6 given the following information:

$20 - 9 - 6 = 5$

In a class of 20 students, 4 play netball, 5 play cricket, 6 play tennis and the rest play soccer.

3. The ratio of soccer players to netballers is ...

$\rightarrow 5$
 $5:4$

- d a. 5:20 b. 5:16 c. 4:5 **d. 5:4**

4. The ratio of netballers to tennis players to all the students is...

$4 = 6 : 20$
 $2 = 3 : 10$

- b a. 2:3:5 b. 2:3:10 c. 3:2:5 d. 3:2:10

5. If there are 150 students, approximately how many cricket players are there?

$\frac{5}{20} = \frac{37.5}{150}$

- c a. 30 b. 35 **c. 37** d. 45

6. If there are 60 netballers, approximately how many tennis players are there?

$\frac{6}{4} = \frac{t}{60}$ tennis net

- d a. 65 b. 75 c. 80 **d. 90**

7. A picture frame has a width to length ratio of 4 by 5. If the length of the photo is 17.5 cm, the width of the photo is

$\frac{w}{l} = \frac{4}{5} = \frac{w}{17.5}$

- c a. 12.5 cm b. 13.5 cm **c. 14 cm** d. 26.5 cm

8. Karen ran 200 m in 40 s, Ethan ran 300 m in 52 s, Saren ran 100 m in 19 s, and George ran 400 m in 73 s. Who ran the fastest per metre?

5 m/s 5.8 m/s 5.3 m/s 5.5 m/s

- a **a. Ethan** b. George c. Karen d. Saren

9. Which bottle of hair conditioner is the best buy?

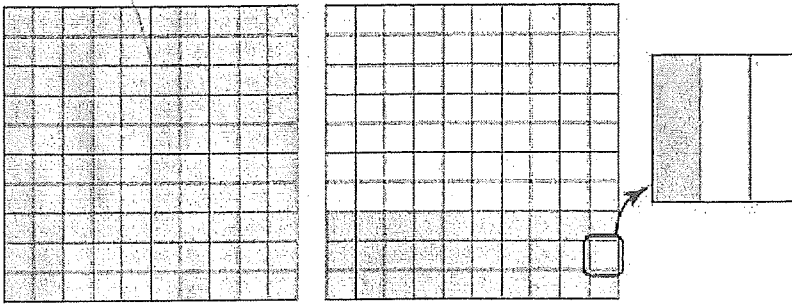
$\div 1000 \rightarrow$ Litres.

- a. 250 mL for \$1.49 b. 375 mL for \$2.29 **c. 465 mL for \$2.75** d. 615 mL for \$3.89

$\$5.96/L$ $\$6.11/L$ $\$5.91/L$ $\$6.33/L$ $\$3.89 \div 0.615L = 6.33/L$

\uparrow lowest price

10. One completely shaded grid represents 100%. Which percent does the diagram represent?



- a. $130\frac{1}{3}\%$
 b. $129\frac{1}{3}\%$

- c. $129\frac{2}{3}\%$
 d. $130\frac{2}{3}\%$

11. Write 0.938 as a percent.

- a. 9.38%
 b. 93.8%

- c. 90.38%
 d. 938%

12. Which is equal to 350%?

- a. 350
 b. 0.35

- c. 3.5
 d. 35

13. Which number is NOT equivalent to the others?

- a. 56%
 b. $\frac{40}{75}$

- c. 0.56
 d. $\frac{14}{25}$

14. A bank is paying 5.5% on savings accounts. What fraction is equivalent?

a. $\frac{11}{20}$

b. $\frac{11}{50}$

c. $\frac{11}{100}$

d. $\frac{11}{200}$

0.055
 $\frac{55}{1000} \div 5 = \frac{11}{200}$

15. Jim read 296 pages of a 400-page book. What percent of the book did he read?

- a. 74%
 b. 29.6%

- c. 148%
 d. 296%

$\frac{296}{400} = \frac{74}{100}$

16. What is 165.25% of \$150?

- a. \$24.78
 b. \$247.88

- c. \$2478.75
 d. \$24 787.50

1.6525×150

17. If there are 136 flights a day in and out of Kelowna airport, and 25% of the flights are late, how many flights will likely not arrive on time?

- a. 27 b. 34 c. 48 d. 56

$$\frac{25}{100} = \frac{34}{136}$$

18. If GST is 5% and PST is 6%, what is the total price of a \$25 000 car?

- a. \$27 750.00 c. \$22 250.00
b. \$25 110.00 d. \$2750.00

$$5 + 6 + 100 = 111\% \text{ of } 25000$$

$$1.11 \times 25000 = 27750$$

19. A clothing store reduced the price of all suits by 40%. If the original price for a suit was \$230.31, and if GST is 5% and PST is 6.5%, what is the total cost of the suit?

- a. \$359.52 c. \$154.08
b. \$216.80 d. \$102.56

Sale price 60% of 230.31 ✓ tax.

$$230.31 \times 0.6 = 138.186$$

$$138.186 \times 1.115 = 154.08$$

20. A 7-11 corner store is offering a deal on their mega size chocolate bars, buy 3 chocolate bars get the fourth free. Each chocolate bar costs \$1.99. What is the percent discount on this deal?

- a. 10% c. 20%
b. 33.3% d. 25%

$$\frac{1.99}{7.96} = \frac{25}{100}$$

21. What's the area of a square with one side measuring 9.5 m?

- a. 38 m² b. 90.25 m² c. 81.25 m² d. 99.5 m²

$$(9.5)^2$$

22. What's the length of each side of a square with an area of 47 m²?

- a. 6 m² b. 7 m² c. 6.9 m² d. 11.75 m²

$$\text{side} = \sqrt{A}$$

$$= \sqrt{47}$$

$$= 6.9$$

23. Determine the volume of a cube that has a side length of 9 cm.

- a. 27 cm² c. 54 cm²
b. 729 cm³ d. 81 cm³

$$V = s^3$$

$$= 9^3 = 9 \times 9 \times 9$$

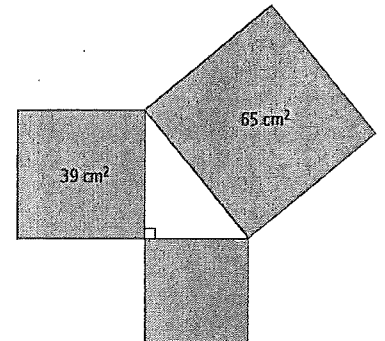
24. Determine the side length of a cube with a volume of 216.

- a. 6 c. 14.7
b. 36 d. 18

$$\sqrt[3]{216} = 6$$

25. Use the Pythagorean relationship to find the unknown area of the square.

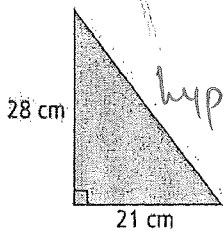
- a. 26 cm² c. 104 cm²
b. 25 cm² d. 2535 cm²



$$c^2 - a^2 = b^2$$

$$65 - 39 = 26$$

26. Determine the length of the hypotenuse.

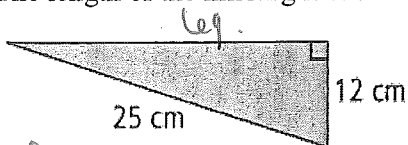


$$\sqrt{28^2 + 21^2}$$

- a. 21 m
b. 28 m

- c. 35 m
d. 49 m

27. The length of the missing side is

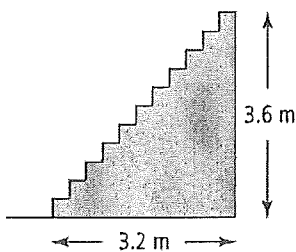


$$\sqrt{25^2 - 12^2}$$

- a. 21.9 cm
b. 24.9 cm

- c. 27.7 cm
d. 37.0 cm

28. Baljit is making a railing for a staircase. The staircase rises 3.6 m over a horizontal distance of 3.2 m. How long should the handrail be? Round your answer to the nearest tenth of a metre.



$$\sqrt{3.6^2 + 3.2^2}$$

- a. 0.4 m
b. 1.6 m

- c. 4.8 m
d. 6.8 m

29. Determine $3 \times \frac{5}{18}$, in lowest terms.

a. $\frac{5}{6}$

b. $\frac{5}{9}$

c. $\frac{5}{18}$

d. $\frac{5}{54}$

30. Calculate $\frac{6}{21} \times \frac{3}{2}$. Express your answer in lowest terms.

a. $\frac{3}{7}$

b. $\frac{1}{3}$

c. $\frac{3}{14}$

d. $\frac{3}{19}$

31. Calculate $\frac{1}{6} \times 1\frac{2}{3} \times 3\frac{1}{2}$.

a. $\frac{8}{9}$

b. $\frac{11}{12}$

c. $\frac{17}{18}$

d. $\frac{35}{36}$

$$\frac{1}{6} \times \frac{5}{3} \times \frac{7}{2}$$

$$\frac{35}{36}$$

$$4 \frac{12}{1} \times \frac{4}{8} = 8$$

32. Calculate $12 \div \frac{3}{4}$.

16

a. $\frac{1}{16}$

b. $\frac{1}{9}$

c. 9

d. 16

33. In lowest terms, determine $\frac{20}{27} \div \frac{5}{9}$.

$$4 \frac{20}{27} \times \frac{9}{5} = 1 \frac{1}{3}$$

C

a. $\frac{2}{3}$

b. $\frac{3}{4}$

c. $1 \frac{1}{3}$

d. $1 \frac{1}{2}$

34. A survey showed that 64 students played hockey. This is $\frac{8}{11}$ the number of students who played soccer. 8

Determine how many students played soccer.

C

a. 47

b. 56

c. 88

d. 92

$$\frac{11}{8} \times \frac{8}{11} S = 64 \times \frac{11}{8}$$

$$S = 88$$

35. Calculate $\frac{1}{4} + \frac{4}{5}$

$$= \frac{5}{20} + \frac{16}{20} = \frac{21}{20} = 1 \frac{1}{20}$$

b

a. $1 \frac{1}{5}$

b. $1 \frac{1}{20}$

c. $1 \frac{2}{5}$

d. $\frac{11}{12}$

36. As an improper fraction in lowest terms, what is $\frac{2}{5} \times \left(\frac{2 \times 10}{3} + \frac{3 \times 3}{10} \right) \div \frac{8}{15}$?

$$\frac{20}{30} + \frac{9}{30} = \frac{29}{30}$$

C

a. $\frac{23}{25}$

b. $\frac{11}{15}$

c. $\frac{29}{40}$

d. $\frac{15}{52}$

$$\frac{12}{5} \times \frac{29}{20} = \frac{29}{5}$$

37. Determine $\frac{4}{5} - \left(\frac{5 \times 2}{6} - \frac{3 \times 3}{4} \right) \times 4$.

$$\frac{10}{12} - \frac{9}{12} = \frac{1}{12} \times \frac{4}{1} = \frac{1}{3}$$

b

a. $\frac{4}{21}$

b. $\frac{7}{15}$

c. $2 \frac{1}{2}$

d. 4

$$\frac{4 \times 3}{5 \times 3} - \frac{1 \times 5}{3 \times 5} = \frac{12}{15} - \frac{5}{15} = \frac{7}{15}$$

$$\frac{29}{5} \times \frac{4}{8} = \frac{29}{10}$$

38. Evaluate $-14 + 7$

a

a. -7

b. 7

c. -21

d. 21

39. Evaluate $(-17) - (-3)$

C

a. -20

b. 20

c. -14

d. 14

40. Evaluate $27 \div -3 = -9$

C

a. -81

b. 9

c. -9

d. 24

41. Evaluate $(-12)(-3) + 36$

d

a. 4

b. 9

c. -9

d. 36

42. Solve the equation $\frac{3s}{3} = \frac{-12}{3}$ $s = -4$

- a. 15
b. -4

- c. -36
d. -15

43. Solve the equation $\frac{k}{-12} = -3$ $-12(-3)$
 $k = 36$

- a. 4
b. -4

- c. 36
d. -36

44. What is the solution to $3x - 6 = 15$.
 $+6 +6$

- a. 7
b. 3

- c. 11
d. -1

$3x = 21$
 $\frac{3x}{3} = \frac{21}{3}$ $x = 7$

45. Solve the equation $12y + 20 = 44$.
 $-20 -20$

- a. $y = 2$
b. $y = 12$

- c. $y = 20$
d. $y = 24$

$12y = 24$
 $\frac{12y}{12} = \frac{24}{12}$

46. Solve the equation $\frac{x}{3} + 5 = -7$ $y = 2$
 $-5 -5$

- a. -6
b. -4

- c. -36
d. 6

$\frac{x}{3} = -12$ $x = -36$

47. The phrase "3 times a number, increased by 4, equals 15" can be modelled with the equation

a. $3n - 4 = 15$

c. $\frac{n}{3} - 4 = 15$

$3n + 4 = 15$

b. $\frac{n}{3} + 4 = 15$

d. $3n + 4 = 15$

48. Which equation represents the statement "five less than twice a number is eleven"?

a. $5 - 2n = 11$
b. $2n - 5 = 11$

c. $11(n - 2) = 5$
d. $5n - 2 = 11$

$2n - 5 = 11$

49. The cost of an adult ticket (A) for a concert is three times the cost of a child's ticket (C). What equation represents this situation?

a. $C = 3A$

b. $A = 3C$

c. $A = \frac{C}{3}$

d. $C = \frac{3}{A}$

$A = 3C$

50. Jenny is 8 years older than her cousin Sunita. If their combined ages are 42, how old is Sunita?

a. 12

b. 17

c. 25

d. 34

Sunita's age: S
Jenny's age: J
 $S + S + 8 = 42$
 $2S + 8 = 42$
 $-8 -8$
 $2S = 34$
 $\frac{2S}{2} = \frac{34}{2}$
 $S = 17$

END OF EXAMINATION