

CONSUMER MATHS : CHOOSING THE MOST APPROPRIATE WORD

Read the journal entry below.

Choose the most appropriate word from the word bank below to replace the underlined phrases.

Write your answer in the brackets.

This week, the boss said he wanted me to do more hours than I normally do. (_____)

He said that he would pay me twice what I would normally get (_____) for each extra hour.

Last week, I just worked my usual 36-hour week. (_____)

I would love to be on a regular number of hours so that I know how much I'll earn for the whole year (_____).

I'm being responsible now that I'm working because I have lots of little amounts coming out of my pay packet (_____) every two weeks.

The government takes out a percentage of my pay to go toward hospitals, schools and public transport (_____), and even money to look after me when I retire (_____).

I'm looking forward to reading the printout of my earnings (_____) at the end of the year because the boss is so pleased, he promised me some extra money (_____) to reward me for a job well done.

Wordbank

Fortnight	overtime	deductions	double time	salary
Normal time	superannuation	taxation	payslip	bonus

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Read the journal entry below.

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Write your answer in the brackets.

This week, the boss said he wanted me to do more hours than I normally do. (overtime)

He said that he would pay me twice what I would normally get (double time) for each extra hour.

Last week, I just worked my usual 36-hour week. (normal time)

I would love to be on a regular number of hours so that I know how much I'll earn for the whole year (salary).

I'm being responsible now that I'm working because I have lots of little amounts coming out of my pay packet (deductions) every two weeks. (fortnight)

The government takes out a percentage of my pay to go toward hospitals, schools and public transport (taxation), and even money to look after me when I retire (superannuation).

I'm looking forward to reading the printout of my earnings (payslip) at the end of the year because the boss is so pleased, he promised me some extra money (bonus) to reward me for a job well done.

Wordbank

Fortnight	overtime	deductions	double time	salary
Normal time	superannuation	taxation	payslip	bonus

Consumer Arithmetic Revision

Wages and Salaries

Wage – An income, paid usually weekly or fortnightly, based on a certain amount earned per hour.

Salary – A set amount of income per annum (per year) which is then paid to the employee per week, per fortnight or per month.

Year = 52 weeks

= 26 fortnights

= 12 months

Piecework

Paid per item.

Commission

Money earned as a percentage of sales.

Sometimes commission is paid on top of a small base salary called a retainer.

Overtime

Overtime is extra hours worked beyond normal working hours.

Overtime paid = Hours worked as overtime \times overtime rate

Time-and-a-half means $\times 1.5$

Double time means $\times 2$

Holiday Pay

Holiday loading = 17.5% of normal wage for number of weeks on holiday

Holiday pay = normal wage for number of weeks on holiday + Holiday Loading

Deductions

Net pay = gross pay – deductions (that is, subtract the deductions from the gross pay)

Casual Work

Wage = number of hours \times rate of pay

Consumer Arithmetic Revision**Wages and Salaries**

Wage – An income, paid usually weekly or fortnightly, based on a certain amount earned per hour. *hourly rate*

Salary – A set amount of income per annum (per year) which is then paid to the employee per week, per fortnight or per month. *fixed*

Year = 52 weeks
 = 26 fortnights
 = 12 months

Piecework

Paid per item.

$$3 \div 100 \quad 3\% \text{ of } \$20000$$

$$0.03 \times 20000$$

Commission

Money earned as a percentage of sales.

$$\text{or } \frac{3}{100} \times 20000$$

Sometimes commission is paid on top of a small base salary called a retainer.

Overtime

Overtime is extra hours worked beyond normal working hours.

Overtime paid = Hours worked as overtime \times overtime rate

Time-and-a-half means $\times 1.5$

Double time means $\times 2$

Holiday Pay

$$\rightarrow 0.175$$

Holiday loading = 17.5% of normal wage for number of weeks on holiday

Holiday pay = normal wage for number of weeks on holiday + Holiday Loading

Deductions

Net pay = gross pay – deductions (that is, subtract the deductions from the gross pay)

goes into bank \rightarrow

Casual Work

Wage = number of hours \times rate of pay

hourly rate

Consumer Arithmetic Revision 1

Wages and Salary

1. Jordan's wages are \$697 per week, out of which he saves \$55.
 - (a) How much does he earn in one year?
 - (b) How much does he save in one year?
2. Amanda's salary is \$44 000 a year. What is her fortnightly gross pay?
3. From questions 1 and 2, how much more than Greg does Amanda earn in a fortnight?
4. Fatima is a secretary who is paid \$16.89 an hour. If she works a 38-hour week, what is her gross weekly wage?
5. Yolanda earns \$12.14 an hour. How much does she earn in a week of $38\frac{1}{2}$ hours?
6. Martine earns a salary of \$28 400 a year, and Carol's wages are \$385 a week.
 - (a) Who earns more money?
 - (b) What is the difference in their earnings for a fortnight?
7. Myron is paid \$1850 a month and Sue earns a salary of \$28 600 a year. Who has the greater weekly earnings and by how much?
8. A television repairer charges \$50 call-out fee plus \$12 for every 15 minutes spent on the job. How much does he charge when called out to repair a television and the repairs take 1 hour 45 minutes?
9. A real estate agent earns 6% commission if he sells a house. What are his earnings if he sells a house worth \$660 000?
10. (a) A clothing factory worker was paid \$16.50 per unit completed. If the worker completed 43 units, how much were her weekly earnings?
(b) How much was earned if 58 units of work were completed?
11. An insurance salesperson was paid a retainer of \$140 plus 10% of the value of his sales. If he sold policies to the value of \$3500, what did he earn?
12. Dan works as a bricklayer. His normal week is 38 hours at a rate of \$22.30 per hour. One week he worked 8 hours overtime at time-and-a-half.
 - (a) How much is his normal pay for the week?
 - (b) How much overtime pay did he earn in that week?
 - (c) What was his gross wage for that week?
13. Lisa works 36 hours at an ordinary rate of \$15.60 and 10 hours at time-and-a-half.
 - (a) What does she earn at ordinary rate?
 - (b) What does she earn at time-and-a-half?
 - (c) What is her total pay?
14. Jamil works 36 hours at an ordinary rate of \$16.10 and 6 hours at double time. What is his wage for the week?
15. Nida works a 36-hour week at an ordinary rate of \$12.76. She is paid double time for working on Sunday.
 - (a) What does Nida earn during a normal 36-hour week?
 - (b) How much would she earn on a Sunday from 9 am to noon?

Consumer Arithmetic Revision 1

Wages and Salary

1. Jordan's wages are \$697 per week, out of which he saves \$55.
 (a) How much does he earn in one year? $52 \times 697 = \$36244$
 (b) How much does he save in one year? $52 \times 55 = \$2860$
2. Amanda's salary is \$44 000 a year. What is her fortnightly gross pay? $44000 \div 26 = \$1692.31$
3. From questions 1 and 2, how much more than ~~Jordan~~ does Amanda earn in a fortnight? $1692.31 - 1394 = \$298.31$
4. Fatima is a secretary who is paid \$16.89 an hour. If she works a 38-hour week, what is her gross weekly wage? $\$641.82$
5. Yolanda earns \$12.14 an hour. How much does she earn in a week of $38\frac{1}{2}$ hours? $38.5 \times 12.14 = \$467.39$
6. Martine earns a salary of \$28 400 a year, and Carol's wages are \$385 a week.
 (a) Who earns more money? $28400 \div 26 = \$1092.3$
 (b) What is the difference in their earnings for a fortnight? $1092.3 - 770 = \$322.30$
7. Myron is paid \$1850 a month and Sue earns a salary of \$28 600 a year. Who has the greater weekly earnings and by how much?
8. A television repairer charges \$50 call-out fee plus \$12 for every 15 minutes spent on the job. How much does he charge when called out to repair a television and the repairs take 1 hour 45 minutes? $1 \text{ hr } 45 = 7 \times 15 \text{ min}$
 $50 + 12 \times 7 = \$134$
9. A real estate agent earns 6% commission if he sells a house. What are his earnings if he sells a house worth \$660 000? $\text{earnings} = 0.06 \times 660000 = \39600
10. (a) A clothing factory worker was paid \$16.50 per unit completed. If the worker completed 43 units, how much were her weekly earnings? $43 \times 16.50 = \$709.50$
 (b) How much was earned if 58 units of work were completed? $58 \times \$16.50 = \957
11. An insurance salesperson was paid a retainer of \$140 plus 10% of the value of his sales. If he sold policies to the value of \$3500, what did he earn? $140 + 0.10 \times 3500 = \490
12. Dan works as a bricklayer. His normal week is 38 hours at a rate of \$22.30 per hour. One week he worked 8 hours overtime at time-and-a-half.
 (a) How much is his normal pay for the week?
 (b) How much overtime pay did he earn in that week?
 (c) What was his gross wage for that week?
13. Lisa works 36 hours at an ordinary rate of \$15.60 and 10 hours at time-and-a-half.
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15. Nida works a 36-hour week at an ordinary rate of \$12.76. She is paid double time for working on Sunday.
 (a) What does Nida earn during a normal 36-hour week?
 (b) How much would she earn on a Sunday from 9 am to noon?

fortnight
 697×2
 $\$1394$

16. Jennifer earns \$22.50 per hour for a week of 38 hours. When she takes 4 weeks holidays, she is paid her normal wages plus an extra $17\frac{1}{2}\%$ for holiday loading.
- What is Jennifer's normal weekly earnings?
 - What is Jennifer's normal wage for 4 weeks?
 - How much extra does she receive for holiday loading?
 - What is the total amount she is paid for 4 weeks holidays plus holiday loading?
17. A driver of a large truck earns gross wages of \$902 per week. Taxation is 25% of this amount and his house payments of \$154 per week are also deducted.
- What are his gross wages for one year?
 - What is his weekly take-home pay?
18. Rachel's gross pay is \$650 a week. If she has deductions of \$180.70 for tax and \$154.50 for loan repayments, what is her weekly take-home pay?
19. Calculate Stephanie's gross wage and net wage:

Name		Date	Rate	Deductions		
Stephanie		23/3	\$18.38	Tax	Superannuation	Other
Hours		Amount		\$183.02	\$24.50	\$11.20
Ord.	38.5					
Ord.	14		Gross wage		Net wage	
Ord.						
Total						

20. Each weekend Fiona spends her time exercising horses and helping around the stables at her uncle's riding school. She works from 9 am to 1 pm on Saturdays and from 2 pm to 4 pm on Sundays. She is paid \$16.20 per hour. What does she earn each weekend?



Chapter Check

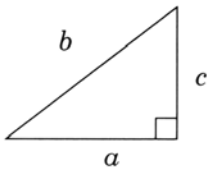
- (a) \$36 244
- (a) \$298.31
- (a) \$467.39
- (a) \$322.31
- Sue by \$87.50 (Use 4 weeks = 1 month)
- (a) \$709.50
- (a) \$690
- (a) \$847.40
- (a) \$1115.00
- (a) \$561.60
- (a) \$795.60
- (a) \$772.80
- (a) \$459.36
- (a) \$855
- (a) \$598.50
- (a) \$46 904
- \$314.80
- Gross wage = \$964.95 Net wage = \$746.23
- \$97.20

Yr 9 5.2 Common Test 3 (T3) Revision

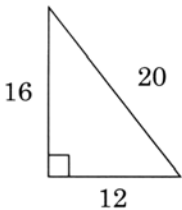
Name _____
Date _____

Pythagoras

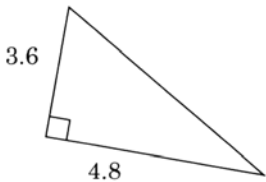
1. Name the hypotenuse of this triangle:



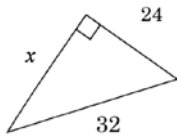
2. What is the length of the hypotenuse:



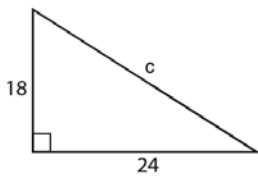
3. Use Pythagoras' theorem to find the length of the hypotenuse:



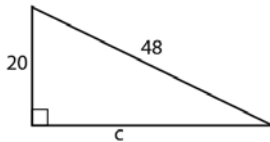
4. Use Pythagoras' theorem to find the length of the side labelled x :



5. Find the length of c .



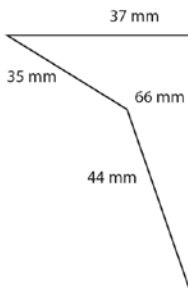
6. Find the length of c .



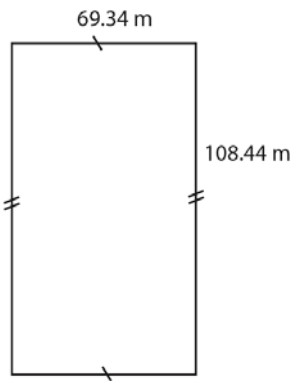
Perimeter

7. Find the perimeter of these shapes

a.



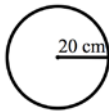
b.



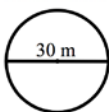
Circles

8. Find the circumference of these circles:

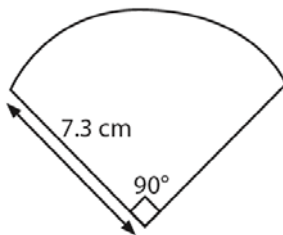
a.



b.



3. Find the perimeter of this shape.



Answers

Pythagoras

1. b
2. 20
3. 6
4. 21.2 (1 dec. pl)
5. 30
6. 43.6 (1 dec. pl)

Perimeter

7. 182 mm
8. 355.56 m

Circles

(rounded to 1 decimal place)

9. $C = 125.7$ cm
10. $C = 94.2$ m
11. $C = 26.1$ cm

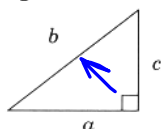
Yr 9 5.2 Common Test 3 (T3) Revision

Name _____

Date _____

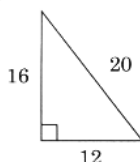
Pythagoras

1. Name the hypotenuse of this triangle:



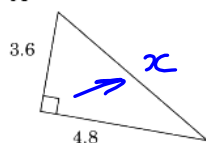
b

2. What is the length of the hypotenuse:



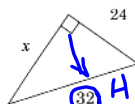
20

3. Use Pythagoras' theorem to find the length of the hypotenuse:



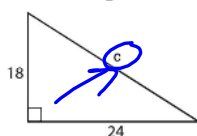
$$\begin{aligned} x^2 &= 3.6^2 + 4.8^2 \\ x^2 &= 12.96 + 23.04 \\ x^2 &= 36 \\ x &= \sqrt{36} \\ x &= 6 \end{aligned}$$

4. Use Pythagoras' theorem to find the length of the side labelled x:



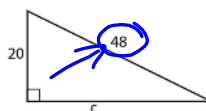
$$\begin{aligned} 32^2 &= x^2 + 24^2 \\ 1024 &= x^2 + 576 \\ x^2 &= 1024 - 576 \\ x &= \sqrt{448} \\ &= 21.16601049 \approx 21.2 \end{aligned}$$

5. Find the length of c.



$$\begin{aligned} c^2 &= 18^2 + 24^2 \\ c^2 &= 324 + 576 \\ c &= \sqrt{900} \\ c &= 30 \end{aligned}$$

6. Find the length of c.

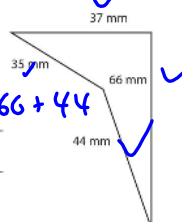


$$\begin{aligned} 48^2 &= c^2 + 20^2 \\ c^2 &= 48^2 - 20^2 \\ c &= \sqrt{1904} \\ c &= 43.6 \end{aligned}$$

Perimeter

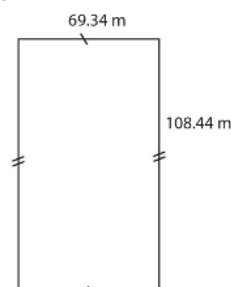
7. Find the perimeter of these shapes

a.



$$\begin{aligned} P &= 35 + 37 + 66 + 44 \\ &= 182 \text{ mm} \end{aligned}$$

b.



$$\begin{aligned} P &= 2 \times 69.34 + 2 \times 108.44 \\ &= 355.56 \text{ m} \end{aligned}$$

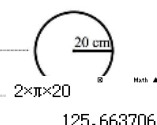
Circles

8. Find the circumference of these circles:

a. $C = 2\pi r$

$$= 2 \times \pi \times 20$$

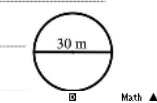
=



125.6637061

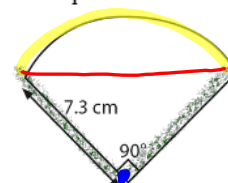
b. $C = \pi d$

$$= \pi \times 30$$

 $\pi \times 30$ 

94.24777961

3. Find the perimeter of this shape.



$$\frac{90}{360} = \frac{1}{4}$$

$$P = \frac{1}{4} \times 2 \times \pi \times 7.3 + 2 \times 7.3$$

$$0.25 \times 2 \times \pi \times 7.3 + 2 \times 7.3$$

26.06681319

Equations

Revision Sheet

Name _____

1. Solve the following equations:

a. $x + 4 = 22$

b. $c + 9 = 23$

c. $z - 18 = 12$

d. $h - 3 = 8$

2. Solve the following equations:

a. $12v = 84$

b. $8c = 48$

c. $\frac{x}{10} = 5$

d. $\frac{d}{9} = 3$

3. Solve the following equations:

a. $5u + 3 = 13$

b. $4b + 5 = 13$

c. $2s - 3 = 5$

d. $4k - 5 = 11$

4. Solve the following equations:

a. $4(d + 4) = 40$

b. $3(d - 4) = -6$

c. $2(r + 5) = 14$

d. $6(r - 3) = 12$

5. Solve the following equations:

a. $\frac{5g}{5} = 20$

b. $\frac{x}{10} = 5$

c. $\frac{y+12}{2} = 8$

d. $\frac{3n+36}{6} = 15$

6. Solve the following equations:

a. $9x + 52 = 6x + 88$

c. $8c + 7 = 2c + 79$

Equations

Homework Sheet 1a

Answer

1.

a. $x = 18$

b. $c = 14$

c. $z = 30$

d. $h = 11$

2.

a. $v = 7$

b. $c = 6$

c. $x = 50$

d. $d = 27$

3.

a. $u = 2$

b. $b = 2$

c. $s = 4$

d. $k = 4$

4.

a. $d = 6$

b. $d = 2$

c. $r = 2$

d. $r = 5$

5.

a. $g = 20$

b. $x = 50$

c. $y = 4$

d. $n = 18$

6.

a. $x = 12$

b. $c = 12$

Equations

Revision Sheet

Name _____

1. Solve the following equations:

a. $x + 4 = 22$

$$\begin{array}{r} -4 \quad -4 \\ x = 18 \end{array}$$

b. $c + 9 = 23$

$$\begin{array}{r} -9 \quad -9 \\ c = 14 \end{array}$$

c. $z - 18 = 12$

$$\begin{array}{r} +18 \quad +18 \\ z = 30 \end{array}$$

d. $h - 3 = 8$

$$\begin{array}{r} +3 \quad +3 \\ h = 11 \end{array}$$

2. Solve the following equations:

a. $12v = 84$

$$\begin{array}{r} 12 \times v \\ \div 12 \quad \div 12 \\ v = 7 \end{array}$$

b. $8c = 48$

$$\begin{array}{r} \div 8 \quad \div 8 \\ c = 6 \end{array}$$

c. $\frac{x}{10} = 5$

$$\begin{array}{r} \times 10 \quad \times 10 \\ x = 50 \end{array}$$

d. $\frac{d}{9} = 3$

$$\begin{array}{r} \times 9 \quad \times 9 \\ d = 27 \end{array}$$

3. Solve the following equations:

a. $5u + 3 = 13$

$$\begin{array}{r} -3 \quad -3 \\ 5u = 10 \\ \div 5 \quad \div 5 \\ u = 2 \end{array}$$

b. $4b + 5 = 13$

$$\begin{array}{r} -5 \quad -5 \\ 4b = 8 \\ \div 4 \quad \div 4 \\ b = 2 \end{array}$$

c. $2s - 3 = 5$

$$\begin{array}{r} +3 \quad +3 \\ 2s = 8 \\ \div 2 \quad \div 2 \\ s = 4 \end{array}$$

d. $4k - 5 = 11$

$$\begin{array}{r} +5 \quad +5 \\ 4k = 16 \\ \div 4 \quad \div 4 \\ k = 4 \end{array}$$

4. Solve the following equations:

a. $4(d + 4) = 40$

$$\begin{array}{r} 4d + 16 = 40 \\ -16 \quad -16 \\ 4d = 24 \\ \div 4 \quad \div 4 \\ d = 6 \end{array}$$

b. $3(d - 4) = -6$

$$3d - 12 = -6$$

c. $2(r + 5) = 14$

d. $6(r - 3) = 12$

5. Solve the following equations:

a. $\frac{5g}{5} = 20$

b. $\frac{x}{10} = 5$

c. $\frac{y+12}{2} = 8$

d. $\frac{3n+36}{6} = 15$

6. Solve the following equations:

a. $9x + 52 = 6x + 88$

c. $8c + 7 = 2c + 79$

Formula

1. Given that $A = lb$ (the area of a rectangle), find A if:

a. $l = 4, b = 6$

b. $l = 4, b = 7.5$

2. Given that $P = 2L + 2B$ (the perimeter of a rectangle), find B if:

a. $P = 16, L = 5$

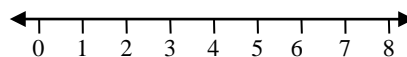
b. $P = 25, L = 9$

3. The area of a rectangle is 48 cm^2 and its length is 12 cm . Use the formula ($A = lb$) to find the breadth.

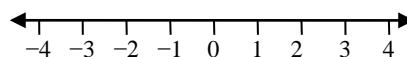
Inequalities

1. Graph each of these inequalities on a separate number line.

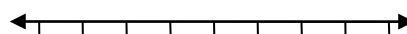
a. $x > 4$



b. $x \leq -3$

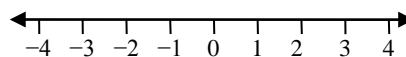


c. $x < 2$

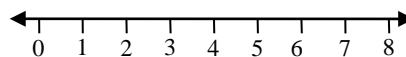


2. Solve each of the following inequalities, and graph your solutions:

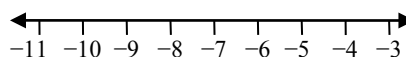
a. $x + 3 > 5$



b. $3x \leq 21$



c. $\frac{x}{4} \geq -2$



Answers

1.

a.

b.

c.

2.

a. $x > 2$

b. $x \leq 7$

c. $x \geq -8$

1.
 - a. $A = 24$
 - b. $A = 30$
2.
 - a. $B = 3$
 - b. $B = 3.5$
3. $b = 4$