SCORE A+

Algebra

With Classified answer book

8

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10- Changing The Subject Of Formula

1. Make p the subject of the formula $m = 3n + 2p$

$p =$ ....

2. Make c the subject of the formula $a = 3c - 4$

$c =$ ....

3. Make b the subject of the formula $P = 2a + 2b$

$b =$ ....

4. Rearrange the formula to make x the subject. $y = \frac{9}{5}x + 4$

$x =$ ....

5. Make t the subject of the formula $u = 7t + 30$

$t =$ ....

6. Make t the subject of the formula $v = u + 5t$

t = ...

7. Make y the subject of the formula $x = 3y + 2$

y=.....

8. Rearrange $y = \frac{1}{2}x + 1$ to make x the subject.

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9. Make a the subject of the formula $k = \frac{a}{2} - 3b$

a = ...

10. Make u the subject of the formula $D = ut + kt^2$

u= .....

11. Make u the subject of the formula $v^2 = u^2 + 2as$

$s =$ .....

12. Make t the subject of the formula $2(t - 5) = y$

$t =$ .....

13. Make n the subject of the formula $m = 5n - 21$

$n =$ .....

14. Make q the subject of the formula $P = 2q + 10$

$q =$ .....

15. Rearrange the equations.

$b + 4 = a$ $\quad b =$

$4d = c$ $\quad d =$

$m - 3 = 4k$ $\quad m =$

16. (a) Rearrange the equation to make t the subject.

Show your working.

$5(2 + t) = w$

t = ...

(b) $D = 2t^2 - 3k$

t = ...

17. Make y the subject of the formula

$t - 1 = 2(y+g)$

y= .....

18. Dexter is rearranging the formula for the area of a circle to make r the subject.

$A = \pi r^2$

Divide by π $\quad \frac{A}{\pi} = r^2$

Square root $\quad \frac{\sqrt{A}}{\pi} = r$

What mistake has he made?

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19. Make b the subject of each formula.

a) $T = \frac{ab^2}{2}$

.....

b) $aT = \frac{1}{2}\sqrt{b}$

.....

c) $T = \frac{1}{2}\sqrt{3b}$

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d) $T = \frac{a}{2}\sqrt{b + c}$

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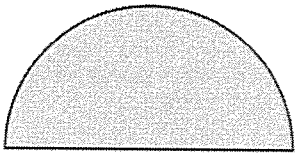
20. The formula for the area of a semicircle is $A = \frac{1}{2}\pi r^2$
Make r the subject of the formula.



21. Dora and Teddy are rearranging the formula

$P = 2(l + w)$ to make w the subject.

Who is correct? How can you verify your answer?

$P = 2(l + w)$

$P = 2l + 2w$

$P - 2l = 2w$

$\frac{P - 2l}{2} = w$

$P = 2\left(l + w\right)$

$\frac{P}{2} = l + w$

$\frac{P}{2} - l = w$

Who is correct? How can you verify your answer?

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22. Which of these formula have A as the subject?

$p = \frac{F}{A}$

$A = bh$

$A = \frac{1}{2}\ bh$

$V = Ax$

23. Match the formula on the left with rearrangements on the right.

Substitute values of x,y and z to check your answers.

$x = y + z$	$y = x - z$
$x = yz$	$y = xz$
$x = \frac{y}{z}$	$y = \frac{x}{z}$
$x = y - z$	$y = z + x$

Rearrange the formulae to make z the subject.

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24. A plumber charges a £35 call out fee, plus £15 per hour worked.

Which is correct formula for the total cost, £C, to hire the plumber for t hours?

$C = (35 + 15)t$	$C = 35 + 15t$	$C = 35t + 15$

25. Match each rectangular card with the correct oval card.

A Area of a triangle	i $A = \pi r^2$
B Volume of a cuboid	ii $A = bh$
C Area of a parallelogram	iii $C = \pi d$
D Circumference of a circle	iv $V = lbh$
E Area of a trapezium	v $A = \frac{1}{2}bh$
F Area of a circle	vi $A = \frac{1}{2}(a + b)h$

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