

Name: _____

Exam Style Questions

Solving Equations



Equipment needed: Calculator, pen

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Video Tutorial

www.corbettmaths.com/contents

Video 110

Video 113



Answers and Video Solutions



1.

Solve

$$4g = 12$$

$$\div 4 \quad \div 4$$

$$g = 3$$

$$g = \underline{\quad 3 \quad} \dots \dots \dots$$

(1)

2.

Solve

$$x - 3 = 8$$

$$+3 \quad +3$$

$$x = 11$$

$$x = \underline{\quad 11 \quad} \dots \dots \dots$$

(1)

3.

Solve

$$x + 5 = 7$$

$$-5 \quad -5$$

$$x = 2$$

$$x = \underline{\quad 2 \quad} \dots \dots \dots$$

(1)

4.

Solve

$$x + 7 = 4$$

$$-7 \quad -7$$

$$x = -3$$

$$x = \underline{\quad -3 \quad} \dots \dots \dots$$

(1)

5.

Solve

$$25 = 8 + y$$

$$-8 \quad -8$$

$$17 = y$$

$$y = 17$$

$$y = \underline{\quad 17 \quad} \dots \dots \dots$$

(1)

6.

Solve



$$\frac{x}{4} = 7$$

$$\times 4 \quad \times 4$$

$$x = 28$$

$$x = \underline{28} \quad (1)$$

7.

Solve



$$\frac{x}{2} = 10$$

$$\times 2 \quad \times 2$$

$$x = 20$$

$$x = \underline{20} \quad (1)$$

8.

Solve



$$5x = 90$$

$$\div 5 \quad \div 5$$

$$x = 18$$

$$x = \underline{18} \quad (1)$$

9.

Solve



$$\frac{m}{5} = 3.7$$

$$\times 5 \quad \times 5$$

$$m = 18.5$$

$$m = \underline{18.5} \quad (1)$$

10. Solve $3x = -24$



$$\div 3 \quad \div 3$$

$$x = -8$$

$$x = \underline{-8} \quad (1)$$

11. Solve $2w - 1 = 13$



$$+1 \quad +1$$

$$2w = 14$$

$$\div 2 \quad \div 2$$

$$w = 7$$

$$w = \underline{7} \quad (2)$$

12. Solve $3y + 4 = 22$



$$-4 \quad -4$$

$$3y = 18$$

$$\div 3 \quad \div 3$$

$$y = 6$$

$$y = \underline{6} \quad (2)$$

13. Solve $9c - 4 = 68$



$$+4 \quad +4$$

$$9c = 72$$

$$\div 9 \quad \div 9$$

$$c = 8$$

$$c = \underline{8} \quad (2)$$

14. Solve



$$5y + y = 60$$

$$6y = 60$$

$$\div 6 \quad \div 6$$

$$y = 10$$

$$y = 10$$

(2)

15. Solve



$$\frac{c}{2} + 3 = 10$$

$$-3 \quad -3$$

$$\frac{c}{2} = 7$$

$$\times 2 \quad \times 2$$

$$c = 14$$

$$c = 14$$

(2)

16. Solve



$$10y - 3 = 24$$

$$+3 \quad +3$$

$$10y = 27$$

$$\div 10 \quad \div 10$$

$$y = 2.7$$

$$y = 2.7$$

(2)

17. Solve



$$8w + 20 = 4$$

$$-20 \quad -20$$

$$8w = -16$$

$$\div 8 \quad \div 8$$

$$w = -2$$

$$w = -2$$

(2)

18. Solve



$$12 - y = 5$$

$$\begin{array}{r} +y \quad +y \\ 12 = 5 + y \\ -5 \quad -5 \end{array}$$

$$\begin{array}{r} 7 = y \\ y = 7 \end{array}$$

$$y = \underline{7} \quad (1)$$

19. Solve



$$4y - 5 = 18$$

$$\begin{array}{r} +5 \quad +5 \\ 4y = 23 \end{array}$$

$$\div 4 \quad \div 4$$

$$y = 5.75$$

$$y = \underline{5.75} \quad (2)$$

20. Solve



$$18 - 4a = 2$$

$$\begin{array}{r} +4a \quad +4a \\ 18 = 2 + 4a \end{array}$$

$$\begin{array}{r} -2 \quad -2 \end{array}$$

$$16 = 4a$$

$$\div 4 \quad \div 4$$

$$4 = a$$

$$a = 4$$

$$a = \underline{4} \quad (2)$$

21. Solve



$$\frac{3x}{4} = 9$$

$$\times 4 \quad \times 4$$

$$3x = 36$$

$$\div 3 \quad \div 3$$

$$x = 12$$

$$x = \underline{12} \quad (2)$$

22. Solve



$$2e - 8 = 14$$
$$+8 \quad +8$$

$$2e = 22$$
$$\div 2 \quad \div 2$$

$$e = 11$$

$$e = \underline{11} \quad (2)$$

23. Solve



$$\frac{w + 3}{4} = 6$$

$$\times 4 \quad \times 4$$

$$w + 3 = 24$$
$$-3 \quad -3$$

$$w = 21$$

$$w = \underline{21} \quad (2)$$

24. Solve



$$3(y + 4) = 24$$

$$3y + 12 = 24$$
$$\quad -12 \quad -12$$

$$3y = 12$$

$$\div 3 \quad \div 3$$

$$y = 4$$

$$y = \underline{4} \quad (3)$$

25. Solve

$$3(4w - 1) = 39$$



$$12w - 3 = 39$$
$$+3 \quad +3$$

$$12w = 42$$

$$\div 12 \quad \div 12$$

$$w = 3.5$$

$$w = 3.5$$

(3)

26. Solve

$$5(2y + 7) = 20$$



$$10y + 35 = 20$$
$$-35 \quad -35$$

$$10y = -15$$

$$\div 10 \quad \div 10$$

$$y = -1.5$$

$$y = -1.5$$

(3)

27. Solve

$$\frac{2x - 9}{7} = 4$$



$$\times 7 \quad \times 7$$

$$2x - 9 = 28$$

$$+9 \quad +9$$

$$2x = 37$$

$$\div 2 \quad \div 2$$

$$x = 18.5$$

$$x = 18.5$$

(3)

28. Solve $7w + 3 = 5w + 9$



$$\begin{array}{r} -5w \quad -5w \\ 7w + 3 = 5w + 9 \end{array}$$

$$\begin{array}{r} -3 \quad -3 \\ 2w + 3 = 9 \end{array}$$

$$\begin{array}{r} \div 2 \quad \div 2 \\ 2w = 6 \end{array}$$

$$w = 3$$

$w = \dots\dots\dots 3$
(3)

29. Solve $9x - 2 = 3x + 70$



$$\begin{array}{r} -3x \quad -3x \\ 9x - 2 = 3x + 70 \end{array}$$

$$\begin{array}{r} +2 \quad +2 \\ 6x - 2 = 70 \end{array}$$

$$\begin{array}{r} \div 6 \quad \div 6 \\ 6x = 72 \end{array}$$

$$x = 12$$

$x = \dots\dots\dots 12$
(3)

30. Solve $8x + 1 = 6 - 2x$



$$\begin{array}{r} +2x \quad +2x \\ 8x + 1 = 6 - 2x \end{array}$$

$$\begin{array}{r} -1 \quad -1 \\ 10x + 1 = 6 \end{array}$$

$$\begin{array}{r} \div 10 \quad \div 10 \\ 10x = 5 \end{array}$$

$$x = 0.5$$

$x = \dots\dots\dots 0.5$
(3)

31. Solve

$$12x + 3 = 7x - 4$$



$$\begin{array}{r} -7x \quad -7x \\ 5x + 3 = -4 \\ -3 \quad -3 \\ 5x = -7 \\ \div 5 \quad \div 5 \\ x = -1.4 \end{array}$$

$$x = \frac{-1.4}{(3)}$$

32. Solve

$$7x = 61.6 - 4x$$



$$\begin{array}{r} +4x \quad +4x \\ 11x = 61.6 \\ \div 11 \quad \div 11 \\ x = 5.6 \end{array}$$

$$x = \frac{5.6}{(2)}$$

33. Solve

$$7y + 6 = 5(y - 2)$$



$$\begin{array}{r} 7y + 6 = 5y - 10 \\ -5y \quad -5y \\ 2y + 6 = -10 \\ -6 \quad -6 \\ 2y = -16 \\ \div 2 \quad \div 2 \\ y = -8 \end{array}$$

$$y = \frac{-8}{(3)}$$

34. Solve



$$4(2x - 5) = 5x + 4$$

$$8x - 20 = 5x + 4$$

$$\begin{array}{r} -5x \qquad -5x \\ 3x - 20 = 4 \end{array}$$

$$\begin{array}{r} +20 \qquad +20 \\ 3x = 24 \end{array}$$

$$\div 3 \qquad \div 3$$

$$x = 8$$

$$x = 8$$

(3)

35. Solve



$$2(2x + 1) = 3(x - 4)$$

$$4x + 2 = 3x - 12$$

$$\begin{array}{r} -3x \qquad -3x \\ x + 2 = -12 \end{array}$$

$$\begin{array}{r} -2 \qquad -2 \\ x = -14 \end{array}$$

$$x = -14$$

$$x = -14$$

(4)

36. Solve



$$5(3c - 2) - 7c = 40 - 2c$$

$$15c - 10 - 7c = 40 - 2c$$

$$8c - 10 = 40 - 2c$$

$$\begin{array}{r} +2c \qquad +2c \\ 10c - 10 = 40 \end{array}$$

$$\begin{array}{r} +10 \qquad +10 \\ 10c = 50 \end{array}$$

$$\div 10 \qquad \div 10$$

$$c = 5$$

$$c = 5$$

(4)

37.

Solve

$$\frac{7-w}{3} = 3w - 4$$

$$\times 3 \quad \times 3$$

$$7 - w = 9w - 12$$

$$+w \quad +w$$

$$7 = 10w - 12$$

$$+12 \quad +12$$

$$19 = 10w$$

$$\div 10 \quad \div 10$$

$$1.9 = w$$

$$w = \underline{1.9} \quad (3)$$

38.

Solve

$$\frac{y+7}{y} = 3$$

$$\times y \quad \times y$$

$$y + 7 = 3y$$

$$-y \quad -y$$

$$7 = 2y$$

$$\div 2 \quad \div 2$$

$$3.5 = y$$

$$y = \underline{3.5} \quad (3)$$

39.



w	w	w	w	20
w	w	x	x	24
w	x	x	y	25
w	x	y	z	30

In the grid above, each row adds up to the number to the right.

Find the values of w, x, y and z.

$$4w = 20$$

$$\div 4 \quad \div 4$$

$$w = 5$$

$$w + x + y + z = 30$$

$$5 + 7 + 6 + z = 30$$

$$18 + z = 30$$

$$-18 \quad -18$$

$$z = 12$$

$$2w + 2x = 24$$

$$10 + 2x = 24$$

$$-10 \quad -10$$

$$2x = 14$$

$$\div 2 \quad \div 2$$

$$x = 7$$

$$w = \overset{5}{\dots\dots\dots}$$

$$x = \overset{7}{\dots\dots\dots}$$

$$y = \overset{6}{\dots\dots\dots}$$

$$z = \overset{12}{\dots\dots\dots}$$

(4)

$$w + 2x + y = 25$$

$$5 + 14 + y = 25$$

$$19 + y = 25$$

$$-19 \quad -19$$

$$y = 6$$