Year 10 Mathematics
Equations and Inequations Practice Test 1

Name_____

1 Find the value of the pronumeral in each of the following

a) $m + 6 = 8$ b) $6n = 18$ c) $p - 3 = 7$ d) $\frac{m}{4} = 3$

2 Check whether each solution is correct by substituting the value into the equation

a) $m + 9 = 11$ b) $5x = 35$ c) $y - 3 = 11$ d) $\frac{p}{6} = 9$

$m = 3$ $m = 7$ $y = 8$ $p = 54$

3 Solve the following equations

a) $5m = 32$ b) $n + 73 = 428$ c) $p - 72 = 315$ d) $\frac{m}{6} = 32$

4 Solve the following equations

a) $5m - 4 = 16$ b) $8n + 6 = 15$ c) $1 - 3b = 7$ d) $112 = 5x + 4$

5 Solve the following equations

a) $7a + 5 = 2a + 10$ b) $4 - 3m = 3m - 8$ c) $7 - y = 5 - 2y$

6 Check to see if the given solutions are correct by substituting the given solution into the equation

a) $m + 7 = 2m - 5$
$m = 12$

b) $5x - 9 = 3 - x$
$x = 5$

7 Solve

a) $3(m + 4) = 15$ b) $4(2a - 3) + 4(a - 6) = 10$

c) $2(3b - 4) - (b - 6) = 8$ d) $7(x + 3) + 4x = 8$

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

8 Solve the following equations

a) $\frac{x}{3} + \frac{x}{4} = 7$ b) $\frac{3x}{5} - \frac{x}{4} = 1$ c) $\frac{x+1}{3} = \frac{x+4}{2}$

9 Solve the following inequations

a) $2x + 3 < 6$ b) $5 - 3x > 6$ c) $2(1 - 2x) \leq 6$

d) $\frac{x}{2} < 3$ e) $\frac{x}{2} - 3 \leq 7$ f) $-\frac{1}{3}x < 5$

10 Given that $I = \frac{\Pr n}{100}$ find I when P = 500 r = 12 n = 4

11 If $V = \frac{1}{2}Ah$ find V when A = 15 and h = 4

12 Given that a = 4 and b = 3 find c when $c = \sqrt{a^2 + b^2}$

13 If $K = \frac{1}{2}mv^2$ find K when m = 5 and v = 6

14 If v = u + at find u when v = 15, a = 3 and t = 4

15 Given $V = \frac{AH}{3}$ find H when V = 12 and A = 4

16 $K = \frac{1}{2}mv^2$ find v if K = 50 and m = 3.5 (Give your answer correct to 2 significant figures)

17 If $A = \frac{1}{2}h(x + y)$ find the value of x correct to 1 decimal place if A = 11 b = 3.5 and y = 4.5

18 If $S = \frac{a}{1 - r}$ find a if S = 7.68 and r = 0.4