Proportionality

Name:	Class:	Date:

Mark	/ 15	%

1) If $c \propto b$, find an equation that connects them given that $c = 81$ when $b = 9$ [1]

2) If d varies as c, find an equation that connects them given that $d = 9$ when $c = 15$ [1]

3) If b is proportional to a and $b = 45$ when $a = 5$. Find [1]

a) the formula for b in terms of a

b) the value of b given $a = 11$

c) the value of a given $b = 108$

4) If $c \propto b$ and $c = 9$ when $b = 12$. Find the value of c given $b = 24$ [1]

5) If z varies directly as the square of y and $z = 144$ when $y = 6$. Find the formula for z in terms of y [1]

6) If z varies directly as y^2 and $z = 12$ when $y = 2$. Find the value of z given $y = 9$ [1]

7) If c is proportional to the root of b and $c = 10$ when $b = 4$. Find the formula for c in terms of b [1]

8) If y varies as $\sqrt{x}$ and $y = 10$ when $x = 25$. Find the value of x given $y = 14$ [1]

9) Given b is proportional to a. Complete the following table [1]

a	2	5		10
b	16		56	

10) If n varies inversely as m and $n = 6$ when $m = 5$. Find the formula for n in terms of m [1]

11) If c varies inversely as b and $c = 6.22222222222$ when $b = 9$. Find [1]

a) the formula for c in terms of b

b) the value of c given $b = 14$

c) the value of b given $c = \frac{28}{3}$

12) If c is inversely proportional to b and $c = 9$ when $b = 5$. Find the value of c given $b = 9$ [1]

13) If r is inversely proportional to p and $r = 4$ when $p = 4$. Find the value of p given $r = 2\frac{2}{7}$ [1]

14) If r is inversely proportional to p^2 and $r = 7$ when $p = 8$. Find the formula for r in terms of p [1]

15) If c is inversely proportional to b. Complete the following table [1]

b	1		4
c	16	8	

Solutions for the assessment Proportionality

1) $c = 9b$

2) $d = 0.6c$ or $d = \frac{3}{5}c$

3) a) $b = 9a$ b) 99 c) 12

4) 18

5) $z = 4y^2$

6) 243

7) $c = 5\text{sqrt(b)}$

8) 49

9) a value is 7 and the b values are 40 and 80

10) $n = \frac{30}{m}$

11) a) $c = \frac{56}{b}$ b) 4 c) 6

12) 5

13) 7

14) $r = \frac{448}{p^2}$

15) b value is 2 and c value is 4