Whitworth Community High School

Climbing Higher

Home Learning
YR 7—Miss Whitehead
Mathematics
Summer 1 2016

Name: _____ Form: _____

Subject Teacher: Miss Whitehead

Date Given: 3rd May 2016 Date to Hand in: 9th May 2016

Level Achieved in this Home learning:

Effort in Home Learning:	Achievement Points:
1	1 for Effort equals 2 Achievement points
2	2 for Effort equals 1 Achievement points
1 = Excellent 5 = needs major improvement	

Teacher Feedback:

WWW

EBI

Student Response:

Parent /Guardian Comment:

Signature:

Spellings:

Using the n^{th} term to Create a Sequence

Find the first 5 terms of the sequence with the following n^{th} terms

(1) n^{th} term is $2n + 3$

Term number (n)	1	2	3	4	5
Term					

Sequence: _____

(2) n^{th} term is $4n - 2$

Term number (n)	1	2	3	4	5
Term					

Sequence: _____

(3) n^{th} term is $3n + 7$

Term number (n)	1	2	3	4	5
Term					

Sequence: _____

(4) n^{th} term is $6n + 1$

Term number (n)	1	2	3	4	5
Term					

Sequence: _____

(5) n^{th} term is $7 + 4n$

Term number (n)	1	2	3	4	5
Term					

Sequence: _____

(6) n^{th} term is $10n + 1{\cdot}5$

Term number (n)	1	2	3	4	5
Term					

Sequence: _____

(7) n^{th} term is $11n - 6{\cdot}2$

Term number (n)	1	2	3	4	5
Term					

Sequence: _____

(8) n^{th} term is $20 - 5n$

Term number (n)	1	2	3	4	5
Term					

Sequence: _____

(9) n^{th} term is $18 - n$

Term number (n)	1	2	3	4	5
Term					

Sequence: _____

(10) n^{th} term is $28 - 3n$

Term number (n)	1	2	3	4	5
Term					

Sequence: _____

(11) n^{th} term is $32 - 2n$

Term number (n)	1	2	3	4	5
Term					

Sequence: _____

(12) n^{th} term is $44 - 6n$

Term number (n)	1	2	3	4	5
Term					

Sequence: _____

(13) n^{th} term is $90 - 7n$

Term number (n)	1	2	3	4	5
Term					

Sequence: _____

(14) n^{th} term is $17 - 4n$

Term number (n)	1	2	3	4	5
Term					

Sequence: _____

Finding the nth term of a linear sequence

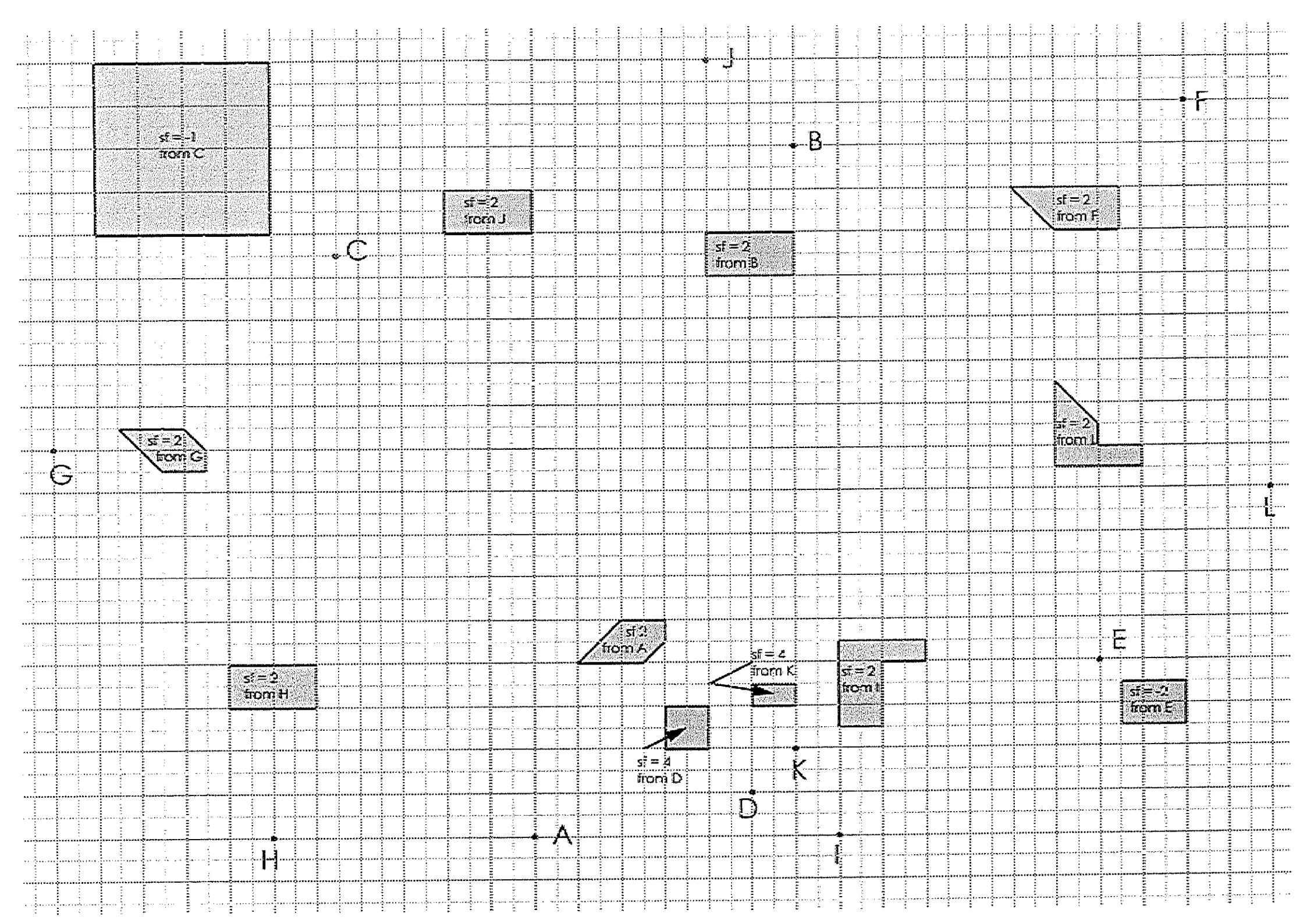
Exercise A

Find expressions for the **n th.** terms of each of the following sequences:

1. 3, 5, 7, 9,... _____
2. 9,11,13,15,... _____
3. 7,11,15,19, ... _____
4. 4,7,10,13,... _____
5. 5,7,9,11,... _____
6. 5,9,13,17,... _____
7. 7,12,17,22,... _____
8. 2,5,8,11,... _____
9. 1,5,9,13,... _____
10. 1,3,5,7,... _____
11. 7,5,3,1,... _____
12. 16,13,10,7,... _____
13. 3,6,9,12,... _____
14. 7,14,21,28,... _____
15. 3,8,13,18,... _____
16. 12,10,8,6,... _____
17. 1,8,15,22,... _____
18. 10,20,30,40,... _____
19. 29,23,17,11,... _____
20. 0,-4,-8,-12,... _____

Write down the first three terms of sequences whose **n th.** term is:

21. 3n + 8 ____ ____ ____
22. 6n - 5 ____ ____ ____
23. 9n ____ ____ ____
24. -7n - 1 ____ ____ ____


sf = 1
from C
sf = 2
from J
sf = 2
from B
sf = 2
from F
sf = 2
from G
sf = 2
from L
sf = 2
from A
sf = 2
from H
sf = 4
from K
sf = 2
from I
sf = 4
from D
sf = 2
from E
J
F
B
C
G
L
E
K
D
A
H
I

Collect the like terms

41). $2a + 3b + 4a$
42). $7v + 2u + 4v$
43). $9f + 4g + 2f$
44). $7c + 8d + 5c$
45). $9u - 2u + 6v$
46). $5a - 4a + 2b$
47). $7j - 4j + 7k$
48). $9s - 6s + 3t$
49). $6f + 9g - 2f$
50). $9p + 5q - 2p$
51). $7y + 2z - 5y$
52). $12d + 5e - 7d$
53). $7r + 2s + 5r + s$
54). $9u + v + 7u + 3v$
55). $2d + e + d + 8e$
56). $5f + 2g + f + g$
57). $9p + 2q + 7p + 3q - 4p + 2q + 3p$
58). $4s + 9t + 2s + 8t + 9s + 6t + 7s + t$
59). $7a + 6b + 2a - 3b + 2a + 3b - 5a - 4b$
60). $8f + 7g - 2f - 3g + 4f + 2g - 9f - 5g$

Expand the brackets

1). $3(2f + 4)$
2). $2(3a + 4)$
3). $4(2e + 5)$
4). $3(4t + 2)$
5). $2(4y + 7)$
6). $4(3r - 5)$
7). $7(2a + 3)$
8). $4(3j - 6)$
9). $5(2q - 9)$
10). $7(6y - 8)$
11). $3(2e + 5t)$
12). $5(6y + 2w)$
13). $3(2s - 4t)$
14). $7(6k - 2v)$
15). $9(2w - e)$
16). $2a(4 + 3a)$
17). $3c(3 + 2c)$
18). $5d(2 - 3d)$
19). $6p(5 - 2p)$
20). $6n(3 - 4n)$
21). $3d(4 + 2d)$
22). $4e(2e - 5)$
23). $2g(9 - 3g)$
24). $2t(5t - 3)$
25). $7m(2m + 4)$

Solve these equations

1). $3x + 1 = 13$
2). $5x - 3 = 27$
3). $2x - 3 = 13$
4). $2x + 4 = 10$
5). $3x - 7 = 8$
6). $4x + 6 = 26$
7). $3x - 2 = 25$
8). $4x - 7 = 29$
9). $7x + 4 = 32$
10). $10x - 3 = 57$
11). $8x + 4 = 36$
12). $6 + 5x = 46$
13). $3 + 2x = 27$
14). $9 + 6x = 33$
15). $17 + 7x = 24$
16). $5 + 3x = 41$
17). $2x + 1 = 9$
18). $2x - 9 = 17$
19). $2x - 9 = 5$
20). $8x - 4 = 60$
21). $12x - 4 = 56$
22). $9t + 7 = 70$
23). $6a + 3 = 21$
24). $7f - 4 = 24$

A gardener is planting vegetables. He plants **m** cabbages.

a). He plants the same number of leeks as he does cabbages. Write down an expression for the number of leeks planted.

b). He plants 5 more carrots than cabbages. Write down an expression for the number of carrots planted.

c). He plants 2 less cauliflowers than cabbages. Write down an expression for the number of cauliflowers planted.

d). The following year he plants twice as many cabbages. Write down an expression for the number of cabbages planted that year.

Billy, Benny and Jenny each make a tower of blocks all **t** blocks high.

a). Billy adds 3 blocks to his tower. Write down an expression for the number of blocks in his tower.

b). Benny takes 6 blocks off his tower. Write down an expression for the number of blocks in his tower.

c). Jenny makes **another 2** towers of the same height. Write down an expression for the number of blocks used by Jenny all together.

In a game of tiddley winks, all the counters are kept in bags containing **v** counters. Alex has 5 bags, Beth has 2 bags, Colin has 7 bags and Deborah has 1 bag.

a). Write down an expression for the number of tiddley winks each person has got.

b). Alex loses 9 counters in her games. Write down an expression for the number of tiddley winks she has at the end of all her games.

c). Beth wins 5 counters in her games. Write down an expression for the number of tiddley winks she has at the end of all her games.

d). Deborah loses half her counters in her games. Write down an expression for the number of tiddley winks she has at the end of all her games.