

Worksheet 2-05**Collecting like terms**

Simplify these algebraic expressions.

1 $x + 5x$

2 $3y + 8y$

3 $6a - a$

4 $9t - 4t$

5 $3ab + 6ab$

6 $8d + 12d$

7 $7st + 3st$

8 $2x + x$

9 $5a^2 + 4a^2$

10 $3t - 2t$

11 $4ab + 4ab$

12 $5ty - 3ty$

13 $2mp - mp$

14 $x + 4x - 3x$

15 $w + w + 5w$

16 $2c - 5c$

17 $3r - 3r$

18 $2m + 3m - m$

19 $e - 2e$

20 $14h + 6 - 12h$

21 $y + y + y$

22 $4c + d + 4c - 3d$

23 $7p + 2 + 3p + 7$

24 $5s - s + 2s$

25 $4y^2 + y^2$

26 $3d + d - d$

27 $a + a + 2f$

28 $c + 12d + 2c - 5d$

29 $6 + 3h + 4h + 1$

30 $6u^2 - 3u^2 + 2u^2$

31 $4a + 2a - 6b - 4b$

32 $5g - 4 + 2g + 3$

33 $10x + 6b - 5b - 7x$

34 $12m + 2n + 8m - 7n$

35 $-4a + 8a^2 + 5a + 3a^2$

36 $y + z + y - z$

37 $12w - 6w + 4wt + 3t$

38 $4a + 6a + 2b - 3a$

39 $x^2 + 3y + y + x^2$

40 $6f + 3 + 2f + 1$

41 $5y^2 + 4x - 2y^2 + 3x$

42 $4k + p - 3k + p$

43 $x + y - x$

44 $8y - 2 - 6y + 1$

45 $2y + 3m - y - m$

46 $-8 - 2q + 5q + 9$

47 $5r^2 + 3r^2 - r - 2r$

48 $3a - b + 3a$

49 $5t + 3t + 3v - 2v$

50 $18 - k + 4k - 10$

51 $14b - 2 + 3b - 6$

52 $4y + 2z - 3y + z$

53 $2x + 5 - 3x - 2$

54 $2ab + ab + 3b$

55 $2p^2 + 3p - p^2 + p$

56 $3u^2 + 5 - u^2 - 4$

57 $-5a + 2 + 3a + 3$

58 $8x - x - 8$

59 $10 + 6x + 3x - 7$

60 $9p - 3q - 7p - 2q$

61 $8t + 4w - 8t + 2w$

62 $15x + 3x - 5 + 5$

63 $-4p + 6p + a - 4a$

64 $6c + 7d - d - 5c$

65 $9jk - 5k - 2kj + 2k$

66 $5b - 5 - 12b + 5$

67 $-3x + 7y - 7y + 6x$

68 $-5y^2 + yz + 3yz - 2y^2$

69 $2y + 5 - 6y + 2$

70 $7w^2 - 6u + 2w^2 + 9u$

71 $2bc + 4cd - bc + 3cd$

72 $-8ef + 2f^2 + 5f^2 + 10f^2$

for New South Wales 5.1 Pathway

Name: Class:



This medical first occurred in 1953!

Simplify the expressions to find the puzzle answer code.



| | | | | | |
|-----------------------|----------|-------------------------|----------|------------------------|----------|
| $5a + 3a =$ | A | $2ab + 5b - ab =$ | H | $3ab - 5ab =$ | O |
| $10a + a - 7a =$ | A | $ab + 8ab - 2ab =$ | H | $b - 2b - 3b =$ | O |
| $5a + 4b - a + 3b =$ | A | $12b - b - 4b =$ | H | $4a + 3b - 3a - 2b =$ | O |
| $16a - 9a =$ | A | $2b + 13b - 4b - 3b =$ | I | $5a - b =$ | P |
| $7b + 3a - 6b =$ | A | $3ab + b - ab + 2b =$ | I | $2ab + ab + 2ab =$ | P |
| $2a + 3a + a =$ | A | $7a + 2b + 8b - 7a =$ | I | $5a + 4ab - 6a =$ | R |
| $3ab + 5a - 2ab =$ | C | $ab + a + 3ab - a =$ | L | $7a + a - 10a - a =$ | R |
| $a + ab + 7a + ab =$ | E | $7ab + 4a + 3a - 2ab =$ | M | $4a + 8ab - 2a - ab =$ | R |
| $6ab - 3ab - 2ab =$ | E | $b + 3b + 7ab - 4ab =$ | N | $3ab - ab - 3ab =$ | S |
| $3a + 2b - 2a - a =$ | E | $6a + 2a + 3b - 4b =$ | N | $4b + ab - 3b - 2ab =$ | T |
| $10ab - 8ab + a =$ | E | $-3a + a + 4a =$ | N | $3a + b - 2a - a =$ | T |
| $b + 6b - 4b =$ | E | $5ab + 4a - 4ab =$ | N | $4a - 4b - 5a + 3b =$ | T |
| $7ab - 4ab + 3ab =$ | G | $12ab - 7ab + 3ab =$ | N | $-7a + 2a - a + 4a =$ | U |
| $6a + 4b + 3a + 2b =$ | G | $2a - 5a + 4a =$ | N | $2ab + b + 2ab - 3b =$ | U |

| | | | | | | | | | | | | | |
|----------|---------|---------|---------|----------|----------|----------|-----------|---------|----------|--------|-----|---|-----|
| 7a | 8a - b | -2ab | 5ab | ab | 2a | 7ab | 3b | 4a | 2a + 7ab | b - ab | | | |
| -4b | 5a - b | 2b | -3a | 8a | b | 8b | a + b | 8ab | -2a | -ab | 10b | a | 6ab |
| 6a | 7b | a + 2ab | 3a + b | -a + 4ab | -a - b | 4ab | -2b + 4ab | 4a + ab | 9a + 6b | | | | |
| 7a + 5ab | 4a + 7b | 5a + ab | 5b + ab | 3b + 2ab | 4b + 3ab | 8a + 2ab | | | | | | | |

4.5



MATHS Quest 9

Code puzzle

for New South Wales 5.1 Pathway

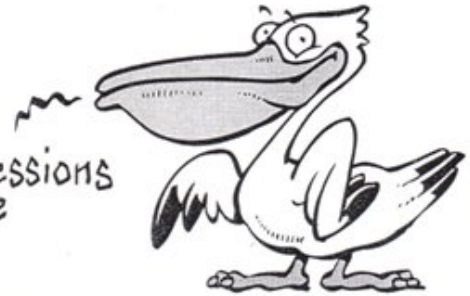
Name: Class:



How do you tell if an egg is hard boiled or raw without breaking it?



Simplify the expressions to find the puzzle answer code.



| | | |
|---|---------------------------------------|--------------------------------------|
| A = $3a \times 5a =$ | G = $7b \times 2b \times b =$ | O = $5a \times 7e =$ |
| A = $2b \times 3a =$ | G = $10ae + 5e =$ | O = $21b^2e + 3be =$ |
| B = $2b \times 3b \times 2 =$ | G = $30ae + 6a =$ | P = $2c \times 3c =$ |
| B = $c \times 3a \times c =$ | H = $20a^2e + 4e =$ | P = $\frac{10a^2c^2}{2a} =$ |
| B = $2c \times c \times 3c =$ | I = $12a^2c + 6a =$ | R = $a \times 8a + 2a =$ |
| D = $5e \times 2e =$ | I = $\frac{16bc}{8b} =$ | R = $2b \times 3e \times 7 =$ |
| D = $7e \times 3a =$ | I = $\frac{10abc}{2ac} =$ | S = $\frac{18ca^2}{2ca^2} =$ |
| E = $2c \times 2a =$ | I = $\frac{15a^2e}{5a} =$ | S = $e \times 2e \times 3e =$ |
| E = $3e \times 2c \times e =$ | L = $\frac{50a^2b^2}{10ab} =$ | S = $32a^2b + 2b =$ |
| E = $6a \times 2b \times a =$ | L = $\frac{a^2b}{b} =$ | S = $2a \times 4b =$ |
| E = $2e \times 2e \times 2e =$ | N = $\frac{24a^2b^2}{8ab^2} =$ | T = $\frac{64be^2}{16e} =$ |
| G = $5c \times 5c =$ | N = $100c^2e + 20c =$ | W = $2 \times 3a \times 4e =$ |
| 9 6c² 2ac 5ce 5b 4be | | W = $\frac{35c^2e}{5c} =$ |

| | | | | | | | | | | | | | | | | | |
|-----------------------|------------------------|-------------|-------------|------------------------|------------------------|------------------------|------------|------------------------|------------------------|-----------------------|----------------------|-------------------------|-----------------------|------------|------------------------|-----------|-----------|
| 5a² | 6ab | 4a | 21ae | 3ac² | 35ae | 3ae | 5ab | 6ce² | 10e² | 8e³ | 5e | 14b³ | 6e³ | 8ab | 5ac² | 2c | 3a |
| 42be | 15a² | 24ae | 4ac | 2a | 25c² | 16a² | 7ce | 7b | 12b² | 6c³ | a² | 12a²b | | | | | |