2.14 Early Algebra: 1-hour Pack

GL ASSESSMENT GL · Calculators not allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Solve 6x + 2 = x + 62.

- ☐ A) -12
- ☐ B) 12.8
- ☐ C) 12
- ☐ D) 60
- ☐ E) 13

---

2 Simplify a + b + 4a - 6b.

- ☐ A) 5a + 5b
- ☐ B) 5a + b
- ☐ C) 5a + 7b
- ☐ D) 0ab
- ☐ E) 5a - 5b

---

3 Solve 6x + 6 = 4x + 18.

- ☐ A) 5
- ☐ B) 12
- ☐ C) 6
- ☐ D) 7
- ☐ E) 1.2

---

4 Simplify 8a + 6b + 3a - 5b.

- ☐ A) 11a + b
- ☐ B) 24a + b
- ☐ C) 11a - b
- ☐ D) 11a + 11b
- ☐ E) 12ab

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5 Solve 4x - 7 = 29.

- [ ] A) 5.5
- [ ] B) 8
- [ ] C) 144
- [ ] D) 9
- [ ] E) 14.25

---

6 Solve 7x + 7 = 3x + 63.

- [ ] A) 15
- [ ] B) 14
- [ ] C) 17.5
- [ ] D) 5.6
- [ ] E) -14

---

7 Simplify 8a + 5b + a - 8b.

- [ ] A) 9a + 13b
- [ ] B) 6ab
- [ ] C) 9a + 5b
- [ ] D) 9a - 3b
- [ ] E) 9a + 3b

---

8 Solve 7(x + 7) = 42.

- [ ] A) 0
- [ ] B) 13
- [ ] C) -7
- [ ] D) 5
- [ ] E) -1

---

9 Simplify 5a + 2b + 7a - b.

- [ ] A) 13ab
- [ ] B) 12a + b
- [ ] C) 35a + b
- [ ] D) 12a + 2b
- [ ] E) 12a + 3b

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10 Solve 5x - 3 = 2x + 12.

(2)

---

11 Solve 9x - 2 = 4x + 73.

- ☐ A) 15
- ☐ B) 14.2
- ☐ C) -15
- ☐ D) 16
- ☐ E) 75

---

12 Simplify 5a + 6b + 6a - 8b.

- ☐ A) 11a + 6b
- ☐ B) 11a + 14b
- ☐ C) 11a - 2b
- ☐ D) 9ab
- ☐ E) 30a - 2b

---

13 Solve 4(x + 3) = 8.

- ☐ A) -1
- ☐ B) 1.25
- ☐ C) 0
- ☐ D) 5
- ☐ E) 2

---

14 Simplify 2a + 7b + a - 5b.

- ☐ A) 3a + 12b
- ☐ B) 3a + 7b
- ☐ C) 3a + 2b
- ☐ D) 5ab
- ☐ E) 2a + 2b

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15 Solve 7x + 15 = 36.

- [ ] A) 21
- [ ] B) 147
- [ ] C) 2
- [ ] D) 3
- [ ] E) 4

---

16 Simplify a + 2b + 7a - 5b.

- [ ] A) 7a - 3b
- [ ] B) 8a - 3b
- [ ] C) 8a + 7b
- [ ] D) 5ab
- [ ] E) 8a + 3b

---

17 Solve 4(x + 1) = 64.

- [ ] A) 15.75
- [ ] B) 17
- [ ] C) 16
- [ ] D) 60
- [ ] E) 15

---

18 Simplify 4a + 8b + 9a - 4b.

- [ ] A) 13a + 8b
- [ ] B) 13a - 4b
- [ ] C) 17ab
- [ ] D) 13a + 12b
- [ ] E) 13a + 4b

---

19 Solve 7x + 15 = 71.

- [ ] A) 8
- [ ] B) 7
- [ ] C) 392
- [ ] D) 9
- [ ] E) 56

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20 Simplify 7a + 9b + 9a - 2b.

- [ ] A) 23ab
- [ ] B) 16a + 7b
- [ ] C) 16a - 7b
- [ ] D) 16a + 11b
- [ ] E) 16a + 9b

---

21 Solve 8x - 5 = 5x - 8.

- [ ] A) -2
- [ ] B) 1
- [ ] C) -1
- [ ] D) 0
- [ ] E) -3

---

22 Simplify 5a + 3b + a - 5b.

- [ ] A) 6a + 3b
- [ ] B) 6a + 8b
- [ ] C) 4ab
- [ ] D) 6a - 2b
- [ ] E) 5a - 2b

---

23 Solve 3x - 11 = 16.

- [ ] A) 9
- [ ] B) 27
- [ ] C) 81
- [ ] D) 8
- [ ] E) 10

---

24 Simplify 5a + b + 8a - 7b.

- [ ] A) 7ab
- [ ] B) 40a - 6b
- [ ] C) 13a + 8b
- [ ] D) 13a + b
- [ ] E) 13a - 6b

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25 Solve 8x - 1 = -25.

- [ ] A) -24
- [ ] B) -3.25
- [ ] C) -3
- [ ] D) -192
- [ ] E) -2.125

---

26 Simplify 2a + 4b + 7a - 2b.

- [ ] A) 11ab
- [ ] B) 9a + 2b
- [ ] C) 9a - 2b
- [ ] D) 14a + 2b
- [ ] E) 9a + 6b

---

27 Solve 9x - 9 = 81.

- [ ] A) 18
- [ ] B) 90
- [ ] C) 810
- [ ] D) 10
- [ ] E) 8

---

28 Simplify 8a + 9b + 5a - 4b.

- [ ] A) 13a + 5b
- [ ] B) 13a - 5b
- [ ] C) 40a + 5b
- [ ] D) 18ab
- [ ] E) 13a + 13b

---

29 Solve 4x - 4 = 3x + 1.

- [ ] A) -3
- [ ] B) 5
- [ ] C) -5
- [ ] D) 4
- [ ] E) 6

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30 Simplify 5a + 3b + 9a - 7b.

- [ ] A) 45a - 4b
- [ ] B) 10ab
- [ ] C) 14a - 4b
- [ ] D) 14a + 10b
- [ ] E) 14a + 3b

---

31 Solve 3x + 14 = 2.

- [ ] A) -36
- [ ] B) -5
- [ ] C) -3
- [ ] D) -4
- [ ] E) -12

---

32 Simplify 3a + 2b + 7a - 6b.

- [ ] A) 21a - 4b
- [ ] B) 10a + 2b
- [ ] C) 10a + 8b
- [ ] D) 6ab
- [ ] E) 10a - 4b

---

33 Solve 8(x + 8) = 160.

- [ ] A) 152
- [ ] B) 12
- [ ] C) 20
- [ ] D) 19
- [ ] E) 28

---

34 Simplify 6a + 2b + 4a - 8b.

- [ ] A) 4ab
- [ ] B) 10a + 2b
- [ ] C) 10a + 10b
- [ ] D) 10a - 6b
- [ ] E) 24a - 6b

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35 Simplify 2a + 9b + 5a - 3b.

- [ ] A) 7a + 12b
- [ ] B) 13ab
- [ ] C) 10a + 6b
- [ ] D) 7a + 9b
- [ ] E) 7a + 6b

---

36 Solve 6x + 1 = 2x - 7.

- [ ] A) -2
- [ ] B) -1.5
- [ ] C) -1
- [ ] D) 2
- [ ] E) -3

---

37 Simplify 5a + 9b + 8a - 4b.

- [ ] A) 18ab
- [ ] B) 40a + 5b
- [ ] C) 13a + 5b
- [ ] D) 13a + 13b
- [ ] E) 13a - 5b

---

38 Solve 5x - 5 = 40.

- [ ] A) 13
- [ ] B) 225
- [ ] C) 8
- [ ] D) 7
- [ ] E) 9

---

39 Simplify 5a + 9b + 6a - 5b.

- [ ] A) 11a + 4b
- [ ] B) 11a - 4b
- [ ] C) 15ab
- [ ] D) 11a + 14b
- [ ] E) 30a + 4b

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40 Solve $4x + 4 = 3x + 12$.

- [ ] A) -8
- [ ] B) 8
- [ ] C) 9
- [ ] D) 7
- [ ] E) 16

---

41 Solve $9x + 1 = 64$.

- [ ] A) 567
- [ ] B) 8
- [ ] C) 7
- [ ] D) 6
- [ ] E) 63

---

42 Simplify $2a + 9b + 7a - 8b$.

- [ ] A) $9a + 9b$
- [ ] B) $9a + b$
- [ ] C) $9a + 17b$
- [ ] D) $10ab$
- [ ] E) $14a + b$

---

43 Solve $6x - 10 = 14$.

- [ ] A) 144
- [ ] B) 5
- [ ] C) 24
- [ ] D) 4
- [ ] E) 3

---

44 Simplify $3a + 5b + 3a - b$.

- [ ] A) $10ab$
- [ ] B) $6a + 5b$
- [ ] C) $6a + 6b$
- [ ] D) $9a + 4b$
- [ ] E) $6a + 4b$

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45 Solve 8(x + 6) = 40.

- [ ] A) -1
- [ ] B) 11
- [ ] C) 5
- [ ] D) -2
- [ ] E) 4.25

---

46 Simplify 3a + 3b + 4a - 8b.

- [ ] A) 7a + 11b
- [ ] B) 12a - 5b
- [ ] C) 7a - 5b
- [ ] D) 2ab
- [ ] E) 7a + 3b

---

47 Solve 7x + 5 = 4x + 20.

- [ ] A) -5
- [ ] B) 5
- [ ] C) 6
- [ ] D) 15
- [ ] E) 4

---

48 Solve 8(x + 5) = 32.

- [ ] A) 9
- [ ] B) 0
- [ ] C) 3.375
- [ ] D) -1
- [ ] E) 4

---

49 Simplify 3a + 9b + 9a - 5b.

- [ ] A) 16ab
- [ ] B) 12a + 9b
- [ ] C) 12a - 4b
- [ ] D) 12a + 14b
- [ ] E) 12a + 4b

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50 Solve 6(x + 3) = 18.

- [ ] A) 0
- [ ] B) -1
- [ ] C) 2.5
- [ ] D) 1
- [ ] E) 6

---

51 Simplify 5a + b + 9a - 4b.

- [ ] A) 14a + b
- [ ] B) 14a - 3b
- [ ] C) 11ab
- [ ] D) 14a + 3b
- [ ] E) 14a + 5b

---

52 Solve 6x + 1 = -5.

- [ ] A) 0
- [ ] B) -6
- [ ] C) -1
- [ ] D) -2
- [ ] E) -36

---

53 Simplify 6a + 3b + 9a - 6b.

- [ ] A) 54a - 3b
- [ ] B) 15a + 3b
- [ ] C) 12ab
- [ ] D) 15a + 9b
- [ ] E) 15a - 3b

---

54 Solve 8(x + 5) = 24.

- [ ] A) 8
- [ ] B) 19
- [ ] C) 2.375
- [ ] D) -2
- [ ] E) -16

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55 Simplify a + 7b + 2a - 4b.

- [ ] A) 3a + 3b
- [ ] B) 3a + 11b
- [ ] C) 6ab
- [ ] D) 2a + 3b
- [ ] E) 3a - 3b

---

56 Solve 3x - 9 = 33.

- [ ] A) 20
- [ ] B) 14
- [ ] C) 2
- [ ] D) 42
- [ ] E) 8

---

57 Simplify 5a + 4b + 8a - 7b.

- [ ] A) 10ab
- [ ] B) 40a - 3b
- [ ] C) 13a + 11b
- [ ] D) 13a - 3b
- [ ] E) 13a + 4b

---

58 Solve (2x - 1)/3 = 5.

(2)

---

59 Solve 9x - 3 = 2x + 67.

- [ ] A) 70
- [ ] B) 9
- [ ] C) 11
- [ ] D) -10
- [ ] E) 10

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60 Simplify a + 4b + 5a - 7b.

- [ ] A) 3ab
- [ ] B) 6a + 11b
- [ ] C) 6a - 3b
- [ ] D) 6a + 3b
- [ ] E) 5a - 3b

---

61 Solve 9x + 4 = 5x + 28.

- [ ] A) 8
- [ ] B) 6
- [ ] C) 24
- [ ] D) -6
- [ ] E) 7

---

62 Solve 4x - 4 = 52.

- [ ] A) 17
- [ ] B) 15
- [ ] C) 14
- [ ] D) 12
- [ ] E) 224

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Mark scheme · 2.14 Early Algebra: 1-hour Pack

A correct answer earns full marks unless the question asks for working, a method, proof or explanation.

Question 1

correct option C (12) cao **B1**

Answer: C) 12

Question 2

correct option E (5a - 5b) cao **B1**

Answer: E) 5a - 5b

Question 3

correct option C (6) cao **B1**

Answer: C) 6

Question 4

correct option A (11a + b) cao **B1**

Answer: A) 11a + b

Question 5

correct option D (9) cao **B1**

Answer: D) 9

Question 6

correct option B (14) cao **B1**

Answer: B) 14

Question 7

correct option D (9a - 3b) cao **B1**

Answer: D) 9a - 3b

Question 8

correct option E (-1) cao **B1**

Answer: E) -1

Question 9

correct option B (12a + b) cao **B1**

Answer: B) 12a + b

Question 10

3x = 15 seen (correct collection of terms); accept an equivalent route to the same value without algebra, such as trial and improvement **M1**

x = 5 cao **A1**

Answer: x = 5

Question 11

correct option A (15) cao **B1**

Answer: A) 15

Question 12

correct option C (11a - 2b) cao **B1**

Answer: C) 11a - 2b

Question 13

correct option A (-1) cao **B1**

Answer: A) -1

Question 14

correct option C (3a + 2b) cao **B1**

Answer: C) 3a + 2b

Question 15

correct option D (3) cao **B1**

Answer: D) 3

Question 16

correct option B (8a - 3b) cao **B1**

Answer: B) 8a - 3b

Question 17

correct option E (15) cao **B1**

Answer: E) 15

Question 18

correct option E (13a + 4b) cao **B1**

Answer: E) 13a + 4b

Question 19

correct option A (8) cao **B1**

Answer: A) 8

Question 20

correct option B (16a + 7b) cao **B1**

Answer: B) 16a + 7b

Question 21

correct option C (-1) cao **B1**

Answer: C) -1

Question 22

correct option D (6a - 2b) cao **B1**

Answer: D) 6a - 2b

Question 23

correct option A (9) cao **B1**

Answer: A) 9

Question 24

correct option E (13a - 6b) cao **B1**

Answer: E) 13a - 6b

Question 25

correct option C (-3) cao **B1**

Answer: C) -3

Question 26

correct option B (9a + 2b) cao **B1**

Answer: B) 9a + 2b

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Question 27

correct option D (10) cao **B1**

Answer: D) 10

Question 28

correct option A (13a + 5b) cao **B1**

Answer: A) 13a + 5b

Question 29

correct option B (5) cao **B1**

Answer: B) 5

Question 30

correct option C (14a - 4b) cao **B1**

Answer: C) 14a - 4b

Question 31

correct option D (-4) cao **B1**

Answer: D) -4

Question 32

correct option E (10a - 4b) cao **B1**

Answer: E) 10a - 4b

Question 33

correct option B (12) cao **B1**

Answer: B) 12

Question 34

correct option D (10a - 6b) cao **B1**

Answer: D) 10a - 6b

Question 35

correct option E (7a + 6b) cao **B1**

Answer: E) 7a + 6b

Question 36

correct option A (-2) cao **B1**

Answer: A) -2

Question 37

correct option C (13a + 5b) cao **B1**

Answer: C) 13a + 5b

Question 38

correct option E (9) cao **B1**

Answer: E) 9

Question 39

correct option A (11a + 4b) cao **B1**

Answer: A) 11a + 4b

Question 40

correct option B (8) cao **B1**

Answer: B) 8

Question 41

correct option C (7) cao **B1**

Answer: C) 7

Question 42

correct option B (9a + b) cao **B1**

Answer: B) 9a + b

Question 43

correct option D (4) cao **B1**

Answer: D) 4

Question 44

correct option E (6a + 4b) cao **B1**

Answer: E) 6a + 4b

Question 45

correct option A (-1) cao **B1**

Answer: A) -1

Question 46

correct option C (7a - 5b) cao **B1**

Answer: C) 7a - 5b

Question 47

correct option B (5) cao **B1**

Answer: B) 5

Question 48

correct option D (-1) cao **B1**

Answer: D) -1

Question 49

correct option E (12a + 4b) cao **B1**

Answer: E) 12a + 4b

Question 50

correct option A (0) cao **B1**

Answer: A) 0

Question 51

correct option B (14a - 3b) cao **B1**

Answer: B) 14a - 3b

Question 52

correct option C (-1) cao **B1**

Answer: C) -1

Question 53

correct option E (15a - 3b) cao **B1**

Answer: E) 15a - 3b

Question 54

correct option D (-2) cao **B1**

Answer: D) -2

Question 55

correct option A (3a + 3b) cao **B1**

Answer: A) 3a + 3b

Question 56

correct option B (14) cao **B1**

Answer: B) 14

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Question 57

correct option D (13a - 3b) cao **B1**

Answer: D) 13a - 3b

Question 58

2x - 1 = 15 seen (both sides multiplied by 3) **M1**

x = 8 cao **A1**

Answer: x = 8

Question 59

correct option E (10) cao **B1**

Answer: E) 10

Question 60

correct option C (6a - 3b) cao **B1**

Answer: C) 6a - 3b

Question 61

correct option B (6) cao **B1**

Answer: B) 6

Question 62

correct option C (14) cao **B1**

Answer: C) 14

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