2.8 Percentages, Money and Financial Problems: 1-hour Pack

Total Marks

ISEB CE.M8 · Calculator allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 The price of a pair of trainers has gone up by 35% and is now £121.50. What was the price before the rise?

- ☐ A) £111.50
- ☐ B) £164.03
- ☐ C) £90
- ☐ D) £186.92
- ☐ E) £78.98

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2 Harriet invests £1500 in an account paying 5% compound interest per year. How much is in the account after 2 years? Assume no money is taken out.

- ☐ A) £1650
- ☐ B) £1653.75
- ☐ C) £1575
- ☐ D) £3150
- ☐ E) £150

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3 At a sports shop in Cardiff, a jacket costs £40. In a sale the price is reduced by 15%. What is the sale price?

- ☐ A) £60
- ☐ B) £46
- ☐ C) £34
- ☐ D) £2.67
- ☐ E) £0.60

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4 The price of a school trip fell from £240 to £211.20. What is the percentage decrease?

- [ ] A) 113.6%
- [ ] B) 13.6%
- [ ] C) 6%
- [ ] D) 88%
- [ ] E) 12%

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5 A new microscope is worth £5000. Its value falls by 2% each year. What is it worth after 2 years?

- [ ] A) £4900
- [ ] B) £5202
- [ ] C) £4800
- [ ] D) £4802
- [ ] E) £200

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6 At a market stall in Glasgow, a rucksack costs £75. In a sale the price is reduced by 60%. What is the sale price?

- [ ] A) £120
- [ ] B) £450
- [ ] C) £4.50
- [ ] D) £1.25
- [ ] E) £30

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7 The price of a ticket fell from £30 to £15. What is the percentage decrease?

- [ ] A) 50%
- [ ] B) 100%
- [ ] C) 25%
- [ ] D) 200%
- [ ] E) £15

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8 A new football kit is worth £2000. Its value falls by 20% each year. What is it worth after 3 years?

- [ ] A) £3456
- [ ] B) £1200
- [ ] C) £800
- [ ] D) £1024
- [ ] E) £1280

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9 At a garden centre near Bath, a rucksack costs £50 before VAT of 18% is added. What is the price including VAT?

- [ ] A) £0.90
- [ ] B) £41
- [ ] C) £59
- [ ] D) £2.78
- [ ] E) £90

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10 The price of a monthly bus pass fell from £180 to £135. What is the percentage decrease?

- [ ] A) 12.5%
- [ ] B) 133.3%
- [ ] C) 75%
- [ ] D) 25%
- [ ] E) 33.3%

---

11 A new microscope is worth £4000. Its value falls by 8% each year. What is it worth after 2 years?

- [ ] A) £3385.60
- [ ] B) £4665.60
- [ ] C) £3360
- [ ] D) £3680
- [ ] E) £640

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12 At a bookshop in Leeds, a pair of trainers costs £90. In a sale the price is reduced by 5%. What is the sale price?

- [ ] A) £4.50
- [ ] B) £85.50
- [ ] C) £94.50
- [ ] D) £45
- [ ] E) £18

---

13 The price of a subscription fell from £120 to £102. What is the percentage decrease?

- [ ] A) 85%
- [ ] B) 117.6%
- [ ] C) 15%
- [ ] D) 17.6%
- [ ] E) 7.5%

---

14 Isla buys a camera in a sale. The price has been reduced by 17.5%, and Isla pays £280.50. What was the original price of the camera?

- [ ] A) £238.72
- [ ] B) £270.50
- [ ] C) £231.41
- [ ] D) £378.68
- [ ] E) £340

---

15 A new tablet is worth £5000. Its value falls by 2% each year. What is it worth after 3 years?

- [ ] A) £14700
- [ ] B) £4700
- [ ] C) £4705.96
- [ ] D) £300
- [ ] E) £5306.04

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16 Work out 10% of £120.

- [ ] A) £12
- [ ] B) £120
- [ ] C) £108
- [ ] D) £132
- [ ] E) £1.20

---

17 The price of a pair of boots fell from £195 to £107.25. What is the percentage decrease?

- [ ] A) 181.8%
- [ ] B) 45%
- [ ] C) 55%
- [ ] D) 81.8%
- [ ] E) 22.5%

---

18 A new football kit is worth £1500. Its value falls by 10% each year. What is it worth after 2 years?

- [ ] A) £2700
- [ ] B) £1215
- [ ] C) £1350
- [ ] D) £1815
- [ ] E) £300

---

19 At a bookshop in Leeds, a pair of trainers costs £60 before VAT of 24% is added. What is the price including VAT?

- [ ] A) £45.60
- [ ] B) £1.44
- [ ] C) £74.40
- [ ] D) £144
- [ ] E) £2.50

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20 The price of a monthly bus pass rose from £540 to £729. What is the percentage increase?

- [ ] A) 25.9%
- [ ] B) 135%
- [ ] C) £189
- [ ] D) 74.1%
- [ ] E) 35%

---

21 Zainab invests £5000 in an account paying 2% compound interest per year. How much is in the account after 2 years? Assume no money is taken out.

- [ ] A) £5202
- [ ] B) £10200
- [ ] C) £5200
- [ ] D) £200
- [ ] E) £5306.04

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22 At a school tuck shop, a guitar costs £325. The price goes up by 45%. What is the new price?

- [ ] A) £1462.50
- [ ] B) £471.25
- [ ] C) £14.63
- [ ] D) £178.75
- [ ] E) £146.25

---

23 The price of a school trip fell from £50 to £25. What is the percentage decrease?

- [ ] A) 50%
- [ ] B) 100%
- [ ] C) 25%
- [ ] D) £25
- [ ] E) 200%

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24 Mohammed invests £4000 in an account paying 10% compound interest per year. How much is in the account after 3 years? Assume no money is taken out.

- [ ] A) £4840
- [ ] B) £1200
- [ ] C) £5856.40
- [ ] D) £5324
- [ ] E) £5200

---

25 At an online shop, a football kit costs £50. The price goes up by 24%. What is the new price?

- [ ] A) £38
- [ ] B) £12
- [ ] C) £2.08
- [ ] D) £1.20
- [ ] E) £62

---

26 The price of a monthly bus pass fell from £30 to £27. What is the percentage decrease?

- [ ] A) 5%
- [ ] B) 90%
- [ ] C) 11.1%
- [ ] D) 10%
- [ ] E) £3

---

27 The price of a tablet has gone up by 12.5% and is now £416.25. What was the price before the rise?

- [ ] A) £312.19
- [ ] B) £406.25
- [ ] C) £370
- [ ] D) £364.22
- [ ] E) £403.75

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28 A new bicycle is worth £5000. Its value falls by 10% each year. What is it worth after 3 years?

- [ ] A) £1500
- [ ] B) £3645
- [ ] C) £4050
- [ ] D) £3500
- [ ] E) £6655

---

29 Work out 50% of £150.

- [ ] A) £75
- [ ] B) £225
- [ ] C) £3
- [ ] D) £750
- [ ] E) £7.50

---

30 The price of a monthly bus pass fell from £145 to £79.75. What is the percentage decrease?

- [ ] A) £65.25
- [ ] B) 55%
- [ ] C) 22.5%
- [ ] D) 81.8%
- [ ] E) 45%

---

31 Amira invests £400 in an account paying 25% compound interest per year. How much is in the account after 3 years? Assume no money is taken out.

- [ ] A) £976.56
- [ ] B) £300
- [ ] C) £625
- [ ] D) £781.25
- [ ] E) £1500

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32 At a bike shop in Norwich, a desk costs £170. In a sale the price is reduced by 15%. What is the sale price?

- [ ] A) £144.50
- [ ] B) £11.33
- [ ] C) £2.55
- [ ] D) £255
- [ ] E) £195.50

---

33 The price of a school trip fell from £100 to £70. What is the percentage decrease?

- [ ] A) 15%
- [ ] B) 70%
- [ ] C) 42.9%
- [ ] D) 142.9%
- [ ] E) 30%

---

34 Dev invests £2000 in an account paying 20% compound interest per year. How much is in the account after 2 years? Assume no money is taken out.

- [ ] A) £3456
- [ ] B) £800
- [ ] C) £4800
- [ ] D) £2880
- [ ] E) £2800

---

35 At a sports shop in Cardiff, a tennis racket costs £25. In a sale the price is reduced by 45%. What is the sale price?

- [ ] A) £112.50
- [ ] B) £13.75
- [ ] C) £1.13
- [ ] D) £36.25
- [ ] E) £0.56

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36 The price of a school trip fell from £275 to £165. What is the percentage decrease?

- [ ] A) 20%
- [ ] B) 60%
- [ ] C) 40%
- [ ] D) £110
- [ ] E) 166.7%

---

37 A shop's takings were £2500 in January. They rose by 20% in February, then fell by 25% in March. What were the takings in March?

- [ ] A) £2250
- [ ] B) £2625
- [ ] C) £2375
- [ ] D) £1875
- [ ] E) £3750

---

38 At a garden centre near Bath, a camera costs £115 before VAT of 24% is added. What is the price including VAT?

- [ ] A) £142.60
- [ ] B) £27.60
- [ ] C) £4.79
- [ ] D) £87.40
- [ ] E) £276

---

39 The price of a school trip fell from £140 to £105. What is the percentage decrease?

- [ ] A) 12.5%
- [ ] B) 75%
- [ ] C) £35
- [ ] D) 33.3%
- [ ] E) 25%

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40 The price of a camera has gone up by 40% and is now £413. What was the price before the rise?

- [ ] A) £82.60
- [ ] B) £295
- [ ] C) £373
- [ ] D) £578.20
- [ ] E) £403

---

41 Zainab invests £4000 in an account paying 8% compound interest per year. How much is in the account after 2 years? Assume no money is taken out.

- [ ] A) £8640
- [ ] B) £4320
- [ ] C) £640
- [ ] D) £4665.60
- [ ] E) £5038.85

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42 At a bike shop in Norwich, a rucksack costs £40. The price goes up by 24%. What is the new price?

- [ ] A) £30.40
- [ ] B) £1.67
- [ ] C) £49.60
- [ ] D) £96
- [ ] E) £0.96

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43 The price of a school trip rose from £110 to £165. What is the percentage increase?

- [ ] A) 33.3%
- [ ] B) 66.7%
- [ ] C) 150%
- [ ] D) £55
- [ ] E) 50%

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44 A new tablet is worth £1000. Its value falls by 8% each year. What is it worth after 2 years?

- [ ] A) £1840
- [ ] B) £846.40
- [ ] C) £840
- [ ] D) £920
- [ ] E) £1166.40

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45 Work out 20% of £95.

- [ ] A) £76
- [ ] B) £190
- [ ] C) £4.75
- [ ] D) £19
- [ ] E) £114

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46 The price of a subscription fell from £380 to £247. What is the percentage decrease?

- [ ] A) 17.5%
- [ ] B) 53.8%
- [ ] C) 35%
- [ ] D) 65%
- [ ] E) 153.8%

---

47 Will invests £1200 in an account paying 25% compound interest per year. How much is in the account after 2 years? Assume no money is taken out.

- [ ] A) £1500
- [ ] B) £3000
- [ ] C) £600
- [ ] D) £1875
- [ ] E) £1800

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48 At an online shop, a guitar costs £105. In a sale the price is reduced by 25%. What is the sale price?

- [ ] A) £26.25
- [ ] B) £262.50
- [ ] C) £131.25
- [ ] D) £2.63
- [ ] E) £78.75

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49 The price of a ticket fell from £355 to £195.25. What is the percentage decrease?

- [ ] A) 45%
- [ ] B) £159.75
- [ ] C) 81.8%
- [ ] D) 55%
- [ ] E) 22.5%

---

50 Will invests £5000 in an account paying 4% compound interest per year. How much is in the account after 3 years? Assume no money is taken out.

- [ ] A) £5624.32
- [ ] B) £5600
- [ ] C) £5849.29
- [ ] D) £600
- [ ] E) £15600

---

51 At a sports shop in Cardiff, a football kit costs £95 before VAT of 8% is added. What is the price including VAT?

- [ ] A) £7.60
- [ ] B) £0.76
- [ ] C) £87.40
- [ ] D) £11.88
- [ ] E) £102.60

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52 The price of a school trip fell from £260 to £104. What is the percentage decrease?

- [ ] A) 150%
- [ ] B) 60%
- [ ] C) £156
- [ ] D) 40%
- [ ] E) 30%

---

53 The price of a guitar has gone up by 25% and is now £362.50. What was the price before the rise?

- [ ] A) £181.25
- [ ] B) £453.13
- [ ] C) £290
- [ ] D) £483.33
- [ ] E) £352.50

---

54 A shop's takings were £5000 in January. They rose by 3% in February, then fell by 5% in March. What were the takings in March?

- [ ] A) £5150
- [ ] B) £4900
- [ ] C) £4750
- [ ] D) £4892.50
- [ ] E) £5407.50

---

55 At a music shop in Brighton, a guitar costs £395. In a sale the price is reduced by 60%. What is the sale price?

- [ ] A) £2370
- [ ] B) £158
- [ ] C) £23.70
- [ ] D) £6.58
- [ ] E) £632

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56 The price of a ticket fell from £100 to £80. What is the percentage decrease?

- ☐ A) £20
- ☐ B) 10%
- ☐ C) 25%
- ☐ D) 80%
- ☐ E) 20%

---

57 A shop's takings were £4000 in January. They rose by 25% in February, then fell by 10% in March. What were the takings in March?

- ☐ A) £5500
- ☐ B) £4600
- ☐ C) £3600
- ☐ D) £4500
- ☐ E) £5000

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58 A new rucksack is worth £1000. Its value falls by 10% each year. What is it worth after 3 years?

- ☐ A) £300
- ☐ B) £2700
- ☐ C) £729
- ☐ D) £810
- ☐ E) £1331

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59 A smart watch originally costs £90. It is first reduced by 10% in a sale. The new, reduced price is then reduced by a further 10% in a clearance sale.

(a) Calculate the price of the smart watch after both reductions. **(3)**

(b) Explain why the overall reduction is not equal to 20% of the original price, and calculate the overall percentage reduction, correct to 1 decimal place if necessary. **(3)**

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Mark scheme · 2.8 Percentages, Money and Financial Problems: 1-hour Pack

Question 1

C cao (£90); price = 121.5 ÷ 1.35 **B1**

Answer: C) £90

Question 2

B cao (£1653.75); multiply by the yearly multiplier each time **B1**

Answer: B) £1653.75

Question 3

C cao (£34); 15% of £40 = £6 **B1**

Answer: C) £34

Question 4

E cao (12%); change £28.80; 28.8 ÷ 240 x 100 **B1**

Answer: E) 12%

Question 5

D cao (£4802); multiply by the yearly multiplier each time **B1**

Answer: D) £4802

Question 6

E cao (£30); 60% of £75 = £45 **B1**

Answer: E) £30

Question 7

A cao (50%); change £15; 15 ÷ 30 x 100 **B1**

Answer: A) 50%

Question 8

D cao (£1024); multiply by the yearly multiplier each time **B1**

Answer: D) £1024

Question 9

C cao (£59); 18% of £50 = £9 **B1**

Answer: C) £59

Question 10

D cao (25%); change £45; 45 ÷ 180 x 100 **B1**

Answer: D) 25%

Question 11

A cao (£3385.60); multiply by the yearly multiplier each time **B1**

Answer: A) £3385.60

Question 12

B cao (£85.50); 5% of £90 = £4.50 **B1**

Answer: B) £85.50

Question 13

C cao (15%); change £18; 18 ÷ 120 x 100 **B1**

Answer: C) 15%

Question 14

E cao (£340); price = 280.5 ÷ 0.825 **B1**

Answer: E) £340

Question 15

C cao (£4705.96); multiply by the yearly multiplier each time **B1**

Answer: C) £4705.96

Question 16

A cao (£12); 10% of £120 = £12 **B1**

Answer: A) £12

Question 17

B cao (45%); change £87.75; 87.75 ÷ 195 x 100 **B1**

Answer: B) 45%

Question 18

B cao (£1215); multiply by the yearly multiplier each time **B1**

Answer: B) £1215

Question 19

C cao (£74.40); 24% of £60 = £14.40 **B1**

Answer: C) £74.40

Question 20

E cao (35%); change £189; 189 ÷ 540 x 100 **B1**

Answer: E) 35%

Question 21

A cao (£5202); multiply by the yearly multiplier each time **B1**

Answer: A) £5202

Question 22

B cao (£471.25); 45% of £325 = £146.25 **B1**

Answer: B) £471.25

Question 23

A cao (50%); change £25; 25 ÷ 50 x 100 **B1**

Answer: A) 50%

Question 24

D cao (£5324); multiply by the yearly multiplier each time **B1**

Answer: D) £5324

Question 25

E cao (£62); 24% of £50 = £12 **B1**

Answer: E) £62

Question 26

D cao (10%); change £3; 3 ÷ 30 x 100 **B1**

Answer: D) 10%

Question 27

C cao (£370); price = 416.25 ÷ 1.125 **B1**

Answer: C) £370

Question 28

B cao (£3645); multiply by the yearly multiplier each time **B1**

Answer: B) £3645

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Question 29

A cao (£75); 50% of £150 = £75 **B1**

Answer: A) £75

Question 30

E cao (45%); change £65.25; 65.25 ÷ 145 x 100 **B1**

Answer: E) 45%

Question 31

D cao (£781.25); multiply by the yearly multiplier each time **B1**

Answer: D) £781.25

Question 32

A cao (£144.50); 15% of £170 = £25.50 **B1**

Answer: A) £144.50

Question 33

E cao (30%); change £30; 30 ÷ 100 x 100 **B1**

Answer: E) 30%

Question 34

D cao (£2880); multiply by the yearly multiplier each time **B1**

Answer: D) £2880

Question 35

B cao (£13.75); 45% of £25 = £11.25 **B1**

Answer: B) £13.75

Question 36

C cao (40%); change £110; 110 ÷ 275 x 100 **B1**

Answer: C) 40%

Question 37

A cao (£2250); multiply by the yearly multiplier each time **B1**

Answer: A) £2250

Question 38

A cao (£142.60); 24% of £115 = £27.60 **B1**

Answer: A) £142.60

Question 39

E cao (25%); change £35; 35 ÷ 140 x 100 **B1**

Answer: E) 25%

Question 40

B cao (£295); price = 413 ÷ 1.4 **B1**

Answer: B) £295

Question 41

D cao (£4665.60); multiply by the yearly multiplier each time **B1**

Answer: D) £4665.60

Question 42

C cao (£49.60); 24% of £40 = £9.60 **B1**

Answer: C) £49.60

Question 43

E cao (50%); change £55; 55 ÷ 110 x 100 **B1**

Answer: E) 50%

Question 44

B cao (£846.40); multiply by the yearly multiplier each time **B1**

Answer: B) £846.40

Question 45

D cao (£19); 20% of £95 = £19 **B1**

Answer: D) £19

Question 46

C cao (35%); change £133; 133 ÷ 380 x 100 **B1**

Answer: C) 35%

Question 47

D cao (£1875); multiply by the yearly multiplier each time **B1**

Answer: D) £1875

Question 48

E cao (£78.75); 25% of £105 = £26.25 **B1**

Answer: E) £78.75

Question 49

A cao (45%); change £159.75; 159.75 ÷ 355 x 100 **B1**

Answer: A) 45%

Question 50

A cao (£5624.32); multiply by the yearly multiplier each time **B1**

Answer: A) £5624.32

Question 51

E cao (£102.60); 8% of £95 = £7.60 **B1**

Answer: E) £102.60

Question 52

B cao (60%); change £156; 156 ÷ 260 x 100 **B1**

Answer: B) 60%

Question 53

C cao (£290); price = 362.5 ÷ 1.25 **B1**

Answer: C) £290

Question 54

D cao (£4892.50); multiply by the yearly multiplier each time **B1**

Answer: D) £4892.50

Question 55

B cao (£158); 60% of £395 = £237 **B1**

Answer: B) £158

Question 56

E cao (20%); change £20; 20 ÷ 100 x 100 **B1**

Answer: E) 20%

Question 57

D cao (£4500); multiply by the yearly multiplier each time **B1**

Answer: D) £4500

Question 58

C cao (£729); multiply by the yearly multiplier each time **B1**

Answer: C) £729

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Question 59

(a) 90 x 0.9 = 81 oe **M1**

(a) 81 x 0.9 = 72.9 oe ft **M1**

(a) 72.90 cao **A1**

(a) Answer: £72.90

(b) explains that the second 10% reduction is taken from the already-reduced price of 81, not from the original 90, so the two reductions do not simply add to 20% oe **B1**

(b) overall reduction = 90 - 72.90 = 17.10 oe, ft from part a **M1**

(b) 19% cao **A1**

(b) Answer: 19%

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