

Question 1

1(a)	2,8,2	1
1(b)	magnesium oxide loses oxygen	1

Question 2

2(b)	iron gains oxygen	1
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Question 3

3(b)(i)	CO ₂ loses oxygen	1
3(b)(ii)	redox	1

Question 4

4(c)(i)	2 (H ₂ S) (1) 3 (O ₂) (1)	2
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4(c)(ii)	sulfur has gained oxygen / hydrogen sulfide has gained oxygen	1
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Question 5

5(b)(i)	M1 160 M2 112 AND 70.(0)(%)	2
5(b)(ii)	hematite	1
5(b)(iii)	by reduction of carbon dioxide	1
5(b)(iv)	Fe ₂ O ₃ + 3CO → 2Fe + 3CO ₂ M1 species M2 correct equation	2
5(b)(v)	reduction	1
5(c)	thermal decomposition	1

Question 6

6(a)(vi)	Ne	1
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Question 7

7(a)(i)	4 FeS ₂ + 11 O ₂ → 2 Fe ₂ O ₃ + 8 SO ₂	1
7(a)(ii)	iron(III) oxide	1

Question 8

8(c)(iii)	M1 4 × -2 or -8 (1) M2 P + (4 × -2) = -3 ∴ P = +5 (1)	2
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Question 9

9(b)(i)	copper: +2 to +1	1
	oxygen: -2 to 0	1
	decrease in oxidation number is reduction AND increase in oxidation number is oxidation	1