FOUNDATION & HIGHER

SAME AT BOTH TIERS

Name ..... Class .....

N3: Order of operations

Inverse operations, priority of operations, powers, roots and reciprocals

20 marks · 25 minutes · Non-calculator

1) Work out

(a) $3 + 4 \times 5$

.....

(1)

(b) $(3 + 4) \times 5$

.....

(1)

[Question 1: 2 marks]

2) Work out $20 - 2^3 \div 4$

.....

[Question 2: 2 marks]

3) Put brackets in to make this true: $6 + 4 \times 3 - 1 = 20$

.....

[Question 3: 1 marks]

4) Work out $\sqrt{36+64} - 2^2$

.....

[Question 4: 2 marks]

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5) Write down the reciprocal of

(a) 4

.....

(1)

(b) $\frac{2}{5}$

.....

(1)

(c) 0.2

.....

(1)

[Question 5: 3 marks]

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6) By cancelling, work out $\frac{15 \times 8}{6 \times 4}$

.....

[Question 6: 2 marks]

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7) $4.5 \times 32 = 144$. Use this to write down

(a) $144 \div 4.5$

.....

(1)

(b) $144 \div 3.2$

.....

(1)

[Question 7: 2 marks]

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8) Work out $(-3)^2 + 4 \times (-2)$

.....

[Question 8: 2 marks]

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9) Work out $\dfrac{5^2 - 3^2}{2 \times 4}$

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[Question 9: 2 marks]

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10) Which is larger, 2^3 or 3^2? Write down its value.

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[Question 10: 1 marks]

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11) Simplify $\frac{3a \times 4b}{6ab}$

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[Question 11: 1 marks]

End of paper – 20 marks in total

Answers and brief mark scheme

Q	Answer	Method / notes
1	(a) 23 (b) 35	B1 each.
2	18	$2^3 \div 4 = 2$ (M1); A1.
3	$(6 + 4) \times (3 - 1) = 20$	B1.
4	6	$\sqrt{100} = 10$ (M1); A1.
5	(a) $\frac{1}{4}$ (b) $\frac{5}{2}$ (c) 5	B1 each.
6	5	Cancelling shown, e.g. $\frac{120}{24}$ (M1); A1.
7	(a) 32 (b) 45	B1 each.
8	1	$9 - 8$ (M1); A1.
9	2	$\frac{16}{8}$ (M1); A1.
10	$3^2 = 9$	B1.
11	2	B1.