**Essential Maths 2 Simplifying Expressions**

1. When finding the value of a fraction, which of the following is correct:
   1. Multiply the numerator by the denominator
   2. Divide the numerator by the denominator
   3. Divide the denominator by the numerator
   4. Add the numerator and the denominator
2. Express 3/40 with a denominator of 120
   1. 6/120
   2. 12/120
   3. 40/120
   4. 9/120
3. Which is the biggest of ¾, 75/100 and 0.75?
   1. ¾
   2. 75/100
   3. 0.75
   4. They are all the same ✓
4. When you multiply both the numerator and denominator of a fraction by the same amount does this:
   1. make the fraction bigger
   2. make the fraction smaller
   3. not change the value of the fraction
   4. make the fraction either bigger or smaller
5. What is the value of (4 + 6) / (9 – 4)
   1. 2
   2. -10/13
   3. 4 + 6/5
   4. (4/9) – (6/4)
6. Calculate 4/5 – 3/16 + 17/64
   1. 18/53
   2. 11/24
   3. 281/320
   4. 25/59
7. Simplify 6/4b – 3/2b
   1. 3/2b
   2. 0
   3. 3/4b
   4. 6/2b
8. Calculate 6/9 x 2/3 ÷ 2/9
   1. 2
   2. 8/81
   3. 1/18
   4. 8/9
9. Evaluate and simplify
10. What percentage is €20 of €600?
    1. 30%
    2. 3000%
    3. 33%
    4. 3.3%
11. A tube of feather shuttlecocks costs £9.34 including VAT at 17.5%. What is the cost excluding VAT?
    1. £7.71
    2. £7.95
    3. £7.84
    4. £8.12
12. I pay £45 for a pair of trainers in a sale. If I received a 20% discount, how much were the trainers originally?
    1. £54.00
    2. £55.30
    3. £62.50
    4. £56.25
13. Does (a + b) /a equal:
    1. b
    2. a + b
    3. 1 + b/a
    4. a + b/a
14. Does (a/b) / (c/d) equal:
    1. ab/cd
    2. ad/bc
    3. abcd
    4. a/bcd
15. Simplify (x – 4)(y – 2)
    1. xy – 8
    2. -4y – 2x
    3. x – 2y
    4. xy -4y – 2x + 8

1. Simplify (a + b)(a – b)
   1. a2 + 2ab + b2
   2. 0
   3. a2 – b2
   4. 2(a + b)
2. What is the value of n(10 + x) / (x – 2) when x = 5
   1. 5
   2. 5n
   3. 15n
   4. 15n – 3
3. Simplify (m – n)(m + 3) – (m + n)(m – 3)
   1. 2m(3 – n)
   2. 0
   3. m2 + 6
   4. 2mn
4. What is the usual reason for factorising an expression?
   1. To find terms that can be cancelled
   2. To make an equation look neater
   3. To remove brackets
   4. To invert a fraction
5. Factorise 16 – x2
   1. (16 – x)x
   2. (16 – x)(1 + x)
   3. (4 + x)2
   4. (4 + x)(4 – x)

1. Factorise 2x2 – x - 15
   1. (x - 3)(x + 5)
   2. (2x +3)(x – 5)
   3. (2x + 5)(x – 3)
   4. (x – 15)(x + 1)
2. Simplify 3f/g + 2g – 5g + 4f/g
   1. 7f/g-3g
   2. –f/g + 7g
   3. 4f/g
3. 7f/g + 7gSimplify (a(b + 2) – b(b + 2)) / (a – b)
   1. 0
   2. (b + 2)/(a – b)
   3. b + 2
   4. It cannot be simplified
4. What is the value of 27 ?
   1. 27
   2. 128
   3. 2222222
   4. 20000000
5. Calculate (33 x 42 x 25)/(32 x 27) without using a calculator
   1. 192
   2. 24
   3. 4
   4. 12
6. What is the value of an(an + am)
   1. 2an + anm
   2. a2n + anm
   3. a2n + an+m
   4. a2n+m
7. What is the value of 640.5?
   1. 64
   2. 16
   3. 8
   4. 2
8. What is the value of 16-0.5?
   1. 4
   2. -4
   3. 2
   4. 0.25
9. Which one of the following is not true?
   1. b-n = 1/bn
   2. bmbn = bm+n
   3. (bm)n = bmn
   4. b0.5 = 1/b2
10. What is the value of 27-0.333?
    1. 0.333
    2. 3
    3. -3
    4. 9
11. Evaluate (x2/qx3/q) / x5/q
    1. 1
    2. x
    3. x1/q
    4. x1.2
12. Simplify [(400)1/2]/(85/3 + 81/3)
    1. 10/17
    2. 2.5
    3. 25
    4. 5/16

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| Question | Answer |
| 1 | B |
| 2 | D |
| 3 | D |
| 4 | C |
| 5 | A |
| 6 | C |
| 7 | B |
| 8 | A |
| 9 | A |
| 10 | D |
| 11 | B |
| 12 | D |
| 13 | C |
| 14 | B |
| 15 | D |
| 16 | C |
| 17 | B |
| 18 | A |
| 19 | A |
| 20 | D |
| 21 | C |
| 22 | A |
| 23 | C |
| 24 | B |
| 25 | D |
| 26 | C |
| 27 | C |
| 28 | D |
| 29 | D |
| 30 | A |
| 31 | A |
| 32 | A |