

A Arithmetic: Multiplying and dividing fractions

1 $\frac{2}{3} \times \frac{4}{7} \times \frac{1}{2}$

2 $\frac{5}{8} \times \frac{1}{2} \times \frac{1}{3}$

3 $\frac{5}{7} \times \frac{1}{2} \times \frac{2}{3}$

4 $\frac{2}{3} \times \frac{1}{4} \times \frac{5}{8}$

5 $\frac{6}{7} \times \frac{1}{9} \times \frac{1}{2}$

6 $\frac{2}{7} \times \frac{2}{3} \times \frac{2}{5}$

7 $\frac{1}{5} + \frac{2}{3}$

8 $\frac{2}{7} + \frac{1}{2}$

9 $\frac{5}{7} + \frac{2}{3} \times \frac{1}{2}$

10 $\frac{1}{4} \times \frac{3}{8} + \frac{2}{3}$

11 $\frac{5}{7} \times \frac{1}{2} + \frac{2}{3}$

12 $\frac{6}{7} \times \frac{2}{5} + \frac{1}{4}$

B Arithmetic: Order of operations

1 $2 \times -3(5 - 8 - 2) + 16$

2 $3 + -4(5 - 8 + 2) - 2$

3 $3.8 + 2.9(5 + 7) + 11$

4 $11.02 + 5.9(3 - 2 + 1) - 6$

5 $\frac{2}{5} \left(\frac{1}{2} + \frac{2}{3} \right)$

6 $2 \times \frac{3}{4} + 5 \times \frac{2}{3}$

7 $3 \times 15 - 2 \times 9 + 6 \times -8$

8 $-12 + -4 + 3 \times -4 + 6$

9 $13 + 24 + -12 \times 3$

10 $6 \times -3 + 4 \times -2 - 3 \times -4$

11 $2.8 \times 3 + 6.8 \times -4$

12 $-8 \times 4 + -9 \times 2 + 6.02 \times 2$

C Algebra: Factorising algebraic expressions

Factorise:

1 $ab + 2a$

2 $bc - 2c$

3 $5a - 10b$

4 $9ab + 2b$

5 $3bc - 2c$

6 $a^2 - b^2$

7 $b^2 - c^2$

8 $9a^2 - b^2$

9 $16a^2 - c^2$

10 $100a^2 - 81$

11 $64a^2 - 9b^2$

12 $9a^2 - 1$

13 $a^2 + 6a + 5$

14 $a^2 + 4a + 4$

15 $a^2 - 4a + 4$

16 $a^2 + 2a - 8$

17 $a^2 + 6a + 8$

18 $a^2 - 2a - 3$

19 $a^2 - 2a - 8$

20 $a^2 + 7a + 10$

D Algebra: Solving equations by removing one numberSolve the equation for a :

1 $a + 5 = 11$

2 $a + 6 = -2$

3 $a - 4 = -2$

4 $a - 11 = -9$

5 $2a = 32$

6 $3a = 16$

7 $2a = -12$

8 $3a = -8$

9 $-2a = 6$

10 $-6a = 1$

11 $-9a = 15$

12 $-3a = 10$

13 $\frac{a}{2} = 2$

14 $\frac{a}{5} = -3$

15 $\frac{a}{10} = -2$

16 $\frac{a}{7} = -6$

17 $\frac{a}{-2} = 3$

18 $\frac{a}{-3} = 9$

19 $\frac{a}{-4} = 17$

20 $\frac{a}{-5} = 3$

E Algebra: Solving equations by removing two numbers

Solve the equation:

1 $2a + 4 = 14$

2 $3a - 4 = 26$

3 $-2a + 1 = -7$

4 $-3a - 8 = 10$

5 $\frac{4a}{7} = -20$

6 $\frac{2a}{5} = -10$

7 $\frac{3a}{2} = -15$

8 $\frac{7a}{3} = 14$

9 $\frac{a-1}{4} = -3$

10 $\frac{a+2}{4} = 6$

11 $\frac{a-3}{2} = -2$

12 $\frac{a+3}{5} = -1$

13 $2a + 1 = 10$

14 $3a - 2 = 15$

15 $4a + 1 = 20$

Answers

Worksheet 6

- A**
- 1 $\frac{4}{21}$ 2 $\frac{5}{48}$ 3 $\frac{5}{21}$ 4 $\frac{5}{48}$ 5 $\frac{1}{21}$
 6 $\frac{8}{105}$ 7 $\frac{3}{10}$ 8 $\frac{4}{7}$ 9 $\frac{15}{28}$ 10 $\frac{9}{64}$
 11 $\frac{15}{28}$ 12 $1\frac{13}{35}$
- B**
- 1 46 2 5 3 49.6 4 16.82 5 $\frac{7}{15}$
 6 $4\frac{5}{6}$ 7 -21 8 -3 9 7 10 -14
 11 -18.8 12 -37.96
- C**
- 1 $a(b+2)$ 2 $c(b-2)$
 3 $5(a-2b)$ 4 $b(9a+2)$
 5 $c(3b-2)$ 6 $(a-b)(a+b)$
 7 $(b-c)(b+c)$ 8 $(3a-b)(3a+b)$
 9 $(4a-c)(4a+c)$ 10 $(10a-9)(10a+9)$
 11 $(8a-3b)(8a+3b)$ 12 $(3a-1)(3a+1)$
 13 $(a+5)(a+1)$ 14 $(a+2)(a+2)$
 15 $(a-2)(a-2)$ 16 $(a+4)(a-2)$
 17 $(a+4)(a+2)$ 18 $(a-3)(a+1)$
 19 $(a-4)(a+2)$ 20 $(a+5)(a+2)$
- D**
- 1 6 2 -8 3 2 4 2 5 16
 6 $5\frac{1}{3}$ 7 -6 8 $-2\frac{2}{3}$ 9 -3 10 $-\frac{1}{6}$
 11 $-1\frac{2}{3}$ 12 $-3\frac{1}{3}$ 13 4 14 -15 15 -20
 16 -42 17 -6 18 -27 19 -68 20 -15
- E**
- 1 5 2 10 3 4 4 -6 5 -35
 6 -25 7 -10 8 6 9 -11 10 22
 11 -1 12 -8 13 $4\frac{1}{2}$ 14 $5\frac{2}{3}$ 15 $4\frac{3}{4}$