

A Number skills: Converting between decimals and percentages

Skill 1.3

Make these into percentages:

- | | | | |
|---------|----------|----------|---------|
| 1 0.23 | 2 0.058 | 3 0.0632 | 4 2.046 |
| 5 9.143 | 6 6.812 | 7 7.09 | 8 0.05 |
| 9 2.042 | 10 0.074 | 11 5.281 | 12 4.09 |

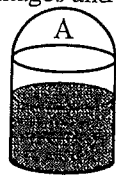
Makes these into decimals:

- | | | | |
|-----------|-----------|------------|------------|
| 13 63.04% | 14 19.5% | 15 117.09% | 16 3.09% |
| 17 0.05% | 18 3.192% | 19 15.04% | 20 4.931% |
| 21 1.02% | 22 6.093% | 23 38.09% | 24 128.49% |

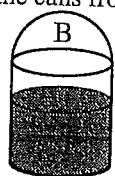
B Number skills: Comparing parts of quantities

Skill 1.4

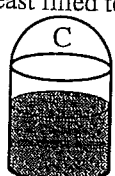
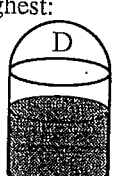
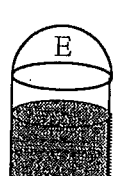
The following 4 L paint cans contain different amounts of paint. Convert the quantities of paint to percentages and list the cans from least filled to highest:



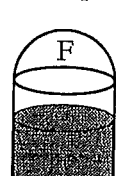
2.8 L full



69.3% full

 $\frac{3}{4}$ full $\frac{3}{8}$ empty

27.3% used



1 L used

C Number applications: Finding fractions of quantities

Skill 2.5

Find the fractions of these quantities:

- | | | |
|----------------------------|------------------------------|------------------------------|
| 1 $\frac{2}{9}$ of \$15.30 | 2 $\frac{3}{4}$ of 2 kg | 3 $\frac{5}{8}$ of 16 hrs |
| 4 $\frac{3}{7}$ of 441 g | 5 $\frac{2}{5}$ of \$32.15 | 6 $\frac{6}{11}$ of \$137.61 |
| 7 $\frac{9}{13}$ of 7.8 t | 8 $\frac{7}{16}$ of 80.32 kg | 9 $\frac{5}{11}$ of \$12.21 |
| 10 $\frac{7}{13}$ of 91 s | 11 $\frac{5}{8}$ of 728 hrs | 12 $\frac{1}{9}$ of 56.88 t |

D Number applications: Expressing fractions of quantities as percentages

Skill 2.6

- Express these test results (out of 112) as a whole number percentage (45, 38, 79, 100, 102, 99, 83, 14, 52, 63, 68, 42, 93, 49, 86, 94, 73, 61, 58, 89, 72, 90, 80, 70, 50).
- A motor cycle's petrol tank capacity is 9.54 L. If at the moment there is 6.2 L of petrol in the tank, what percentage of the tank is:
 - empty
 - full?

E Algebra: Expanding brackets

Skill 3.2

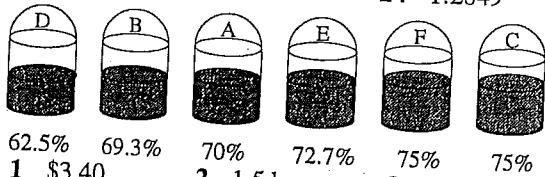
Expand these brackets:

- | | | |
|--------------------------|------------------------|--------------------------|
| 1 $-2a(b+3)$ | 2 $5a(2b-4c)$ | 3 $-11a(5b+6)$ |
| 4 $9(2a+3b)$ | 5 $\frac{1}{2}(2a-4b)$ | 6 $-\frac{3}{8}(4a+16c)$ |
| 7 $\frac{ac}{4}(2+8b+3)$ | 8 $4.20(8a-4b)$ | 9 $(x-3y)(x+3y)$ |
| 10 $(4a-b)(a+b)$ | 11 $(6a-7b)(2a+b)$ | 12 $(11a-5b)(a+4b)$ |
| 13 $(a+1)(4c-2)$ | 14 $(9a+2b)(a-3b)$ | 15 $(6a-7)(4a+3)$ |
| 16 $(3b-4)(6a+1)$ | | |

Worksheet 3

- A**
- | | | |
|-------------|-------------|-------------|
| 1 23% | 2 5.8% | 3 6.32% |
| 4 204.6% | 5 914.3% | 6 681.2% |
| 7 709% | 8 5% | 9 204.2% |
| 10 7.4% | 11 528.1% | 12 409% |
| 13 0.6304 | 14 0.195 | 15 1.117 09 |
| 16 0.0309 | 17 0.0005 | 18 0.031 92 |
| 19 0.1504 | 20 0.049 31 | 21 0.0102 |
| 22 0.060 93 | 23 0.3809 | 24 1.2849 |

B



- C**
- | | | |
|----------|------------|-----------|
| 1 \$3.40 | 2 1.5 kg | 3 10 hrs |
| 4 189 g | 5 \$12.86 | 6 \$75.06 |
| 7 5.4 t | 8 35.14 kg | 9 \$5.55 |
| 10 49 s | 11 455 hrs | 12 6.32 t |
- D**
- 1 (40, 34, 71, 89, 91, 88, 74, 13, 46, 56, 61, 38, 83, 44, 77, 84, 65, 54, 52, 79, 64, 80, 71, 63, 45)
- 2 (a) 35% (b) 65%
- E**
- | | |
|---|---------------------------|
| 1 $-2a - 6a$ | 2 $10ab - 20ac$ |
| 3 $-55ab - 66a$ | 4 $18a + 27b$ |
| 5 $a - 2b$ | 6 $-1.5a - 6c$ |
| 7 $\frac{ac}{2} + 2abc + \frac{3ac}{4}$ | 8 $32.16a - 16.08b$ |
| 9 $x^2 - 9y^2$ | 10 $4a^2 + 3ab - b^2$ |
| 11 $12a^2 - 8ab - 7b^2$ | 12 $11a^2 + 39ab - 20b^2$ |
| 13 $4ac - 2a + 4c - 2$ | 14 $9a^2 - 25ab - 6b^2$ |
| 15 $24a^2 - 10a - 21$ | 16 $18ab + 3b - 24a - 4$ |