Revision & Practic Worksheet 4

A Number skills: Mental calculation

Skill 1.6

Calculate mentally by splitting the numbers into useful parts:

1 43×200
2 125×1000
3 2.1×2000
4 60×3000
5 800×0.5
6 $\frac{1}{4}$ of \$12.12
7 $\frac{2}{3}$ of 99 t
8 $\frac{2}{5}$ of 55 kg
9 $\frac{2}{7}$ of \$56
10 $\frac{14}{49}$
11 1.3×2000
12 5.2×200
13 $10\frac{1}{2} - 2\frac{1}{4}$
14 $5\frac{1}{8} + \frac{1}{4}$
15 $6\frac{2}{3} - 1\frac{1}{3}$
16 $10\frac{1}{4} + 5\frac{3}{4}$
17 $3\frac{1}{5} + 2\frac{1}{5} + 6\frac{2}{5}$
18 $13\frac{2}{5} - 3\frac{1}{5} + 6\frac{1}{5}$
19 $4\frac{1}{4} - 2\frac{1}{2} + 1\frac{1}{4}$
20 $5\frac{1}{4} - \frac{1}{2} - \frac{1}{4}$
21 $6\frac{1}{3} + 1\frac{1}{4}$
22 $3\frac{1}{6} + 2\frac{1}{6}$

B Number applications: Finding percentages of quantities

Skill 2.7

Find the saving and cost on a $22\frac{1}{2}$%-off sale of the following:

1 Sports runners \$120
2 Calculator \$16
3 Pocket of folder paper \$5.20
4 10 packs of chips \$4
5 Vase \$80
6 Watch \$62
7 Bracelet \$84
8 Cricket hat \$12
9 Toy Car \$8.40
10 Vitamiser \$114

C Number applications: Percentage increase or decrease

Skill 2.8

Find the scale factor which can be used to decrease the value of the following amounts by 12%. Use it to find the reduction and new value of these housing loans:

1 \$38 000
2 \$96 500
3 \$79 115
4 \$123 200
5 \$69 680
6 \$82 530
7 \$39 400
8 \$83 600
9 \$56 240
10 \$83 000
11 \$180 000
12 \$45 280

D Algebra: Algebraic fractions

Skill 3.3

Simplify the following:

1 $\frac{6a}{7b} \times \frac{2}{3a}$
2 $\frac{7a}{4b} \times \frac{9b}{2a}$
3 $\frac{3ab}{7} \times \frac{4c}{81}$
4 $\frac{3a}{7} \div \frac{2}{5b}$
5 $\frac{7ab}{2} \div \frac{14a}{c}$
6 $\frac{3a}{b} \times \frac{9c}{7} \div \frac{2a}{5b}$
7 $\frac{5}{7} + \frac{2a}{3}$
8 $\frac{9b}{3} - \frac{6c}{5}$
9 $\frac{3b}{2} + \frac{5}{a}$
10 $\frac{(a+1)}{3} + \frac{a}{6}$
11 $\frac{3(b+2)}{7} - \frac{(2b+3)}{4}$
12 $\frac{5ab}{2} - \frac{3(a+2)}{5}$

E Indices: Multiplying index expressions

Skill 4.2

Simplify:

1 $a^5 \times a^6 \times a^7$
2 $a^9 \times a^{11} \times a^{10}$
3 $4a^2 \times 5a^6$
4 $-6a^2b \times 7ab^2$
5 $9a^2b^3 \times 3ab^4$
6 $5a^4b^3 \times -2a^6b^9$
7 $2^2a^4b^3 \times 2^6a^3b^2$
8 $-4^2a^3b \times -3^2a^4b$
9 $-7a^2b^3 \times 2a^4b^9$
10 $3^3a^4b^2 \times 2^3a^2b^3$
11 $6a^4b^8 \times 2^3a^2b \times 9ab^4$
12 $-17a^4b^3 \times -19a^5b^6 \times 3ab^4$

Worksheet 4

A **1** 8600 **2** 125 000 **3** 4200 **4** 180 000
5 400 **6** \$3.03 **7** 66 t **8** 22 kg
9 \$16 **10** $\frac{2}{7}$ **11** 2600 **12** 1040
13 $8\frac{1}{4}$ **14** $5\frac{3}{8}$ **15** $5\frac{1}{3}$ **16** 16 **17** $11\frac{4}{5}$
18 $16\frac{2}{5}$ **19** 3 **20** $4\frac{1}{2}$ **21** $7\frac{7}{12}$ **22** $5\frac{1}{3}$

B

	Saving	*Cost*
1	\$27	\$93
2	\$3.60	\$12.40
3	\$1.17	\$4.03
4	\$0.90	\$3.10
5	\$18	\$62
6	\$13.95	\$48.05
7	\$18.90	\$65.10
8	\$2.70	\$9.30
9	\$1.89	\$6.51
10	\$25.65	\$88.35

C Factor: $1 - 0.12 = 0.88$

	Reduction	*New Value*
1	\$4560	\$33 440
2	\$11 580	\$84 920
3	\$9493.80	\$69 621.20
4	\$14 784	\$108 416
5	\$8361.60	\$61 38.40
6	\$9903.60	\$72 626.40
7	\$4728	\$34 672
8	\$10 032	\$73 658
9	\$6748.80	\$49 491.20
10	\$9960	\$73 040
11	\$21 600	\$158 400
12	\$5433.60	\$39 846.40

D **1** $\frac{4}{7b}$ **2** $\frac{63}{8} = 7\frac{7}{8}$ **3** $\frac{4abc}{189}$
4 $\frac{15ab}{14}$ **5** $\frac{bc}{4}$ **6** $\frac{135c}{14}$
7 $\frac{15+14a}{21}$ **8** $\frac{45b-18c}{15}$ **9** $\frac{3ab+10}{2a}$
10 $\frac{7a+6}{18}$ **11** $\frac{-2b+3}{28}$ **12** $\frac{25ab-6a-12}{10}$

E **1** a^{18} **2** a^{30} **3** $20a^8$
4 $-42a^3b^3$ **5** $27a^3b^7$ **6** $-10a^{10}b^{12}$
7 $25a^7b^5$ **8** $144a^7b^2$ **9** $-14a^6b^{12}$
10 $216a^6b^5$ **11** $432a^7b^{13}$ **12** $969a^{10}b^{13}$